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SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1925 6

No. 245 37

JOHN W. McCARDLE, MAURICE DOUGLASS, OSCAR RATTIS,
ET AL., AS MEMBERS OF THE PUBLIC SERVICE COM-
MISSION OF INDIANA, ET AL., APPELLANTS,

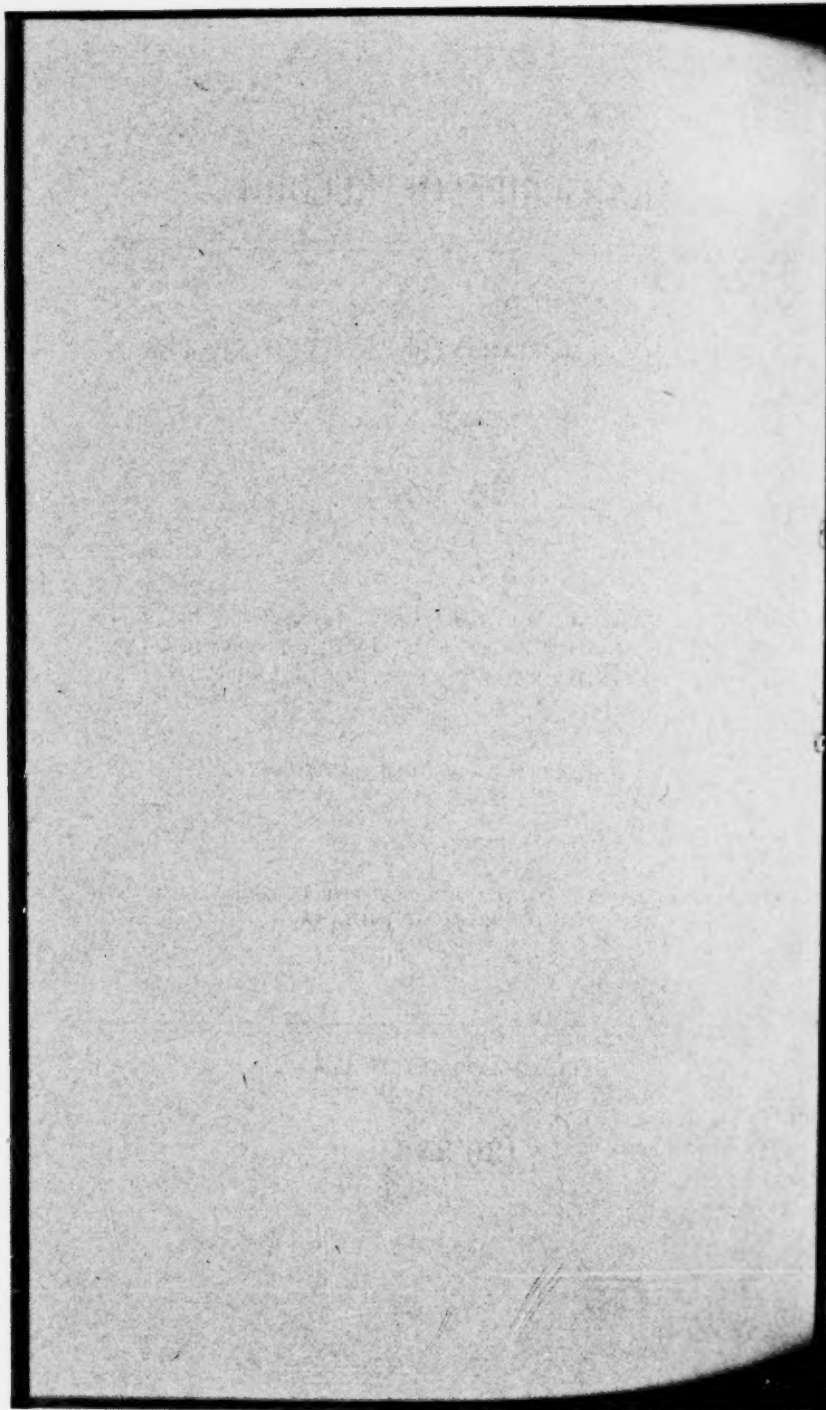
vs.

INDIANAPOLIS WATER COMPANY

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR
THE DISTRICT OF INDIANA

FILED JANUARY 14, 1925

(30,806)



(30,806)

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[fol. 1]

[Caption omitted]

[fol. 2] **IN UNITED STATES DISTRICT COURT FOR THE
DISTRICT OF INDIANA**

No. 750. In Equity.

INDIANAPOLIS WATER COMPANY, Complainant,**vs.****JOHN W. MCCARDLE, MAURICE DOUGLASS, OSCAR RATTI, FRANK
Wampler, and Samuel Artman, as Members of the Public Service
Commission of Indiana, Defendants****BILL OF COMPLAINT—Filed Dec. 21, 1923**

Your orator, the Indianapolis Water Company, a corporation of Marion County, Indiana, complains of the defendants, John W. McCardle, Maurice Douglass, Oscar Ratti, Frank Wampler, and Samuel Artman, as Members of the Public Service Commission of Indiana, and says:

That your orator is a public service corporation of Marion County, Indiana, is a citizen of Indiana, and has its residence only in the State of Indiana; that your orator hereinafter in this bill of complaint will be referred to as the Water Company, and that the defendants hereinafter in this bill of complaint will be referred to as the Commission; that the cause of action declared on herein arises under the Constitution of the United States, as hereinafter shown; that each of the defendants is and on November 28, 1923, was a member of the Public Service Commission of Indiana and each [fol. 3] is a citizen and resident of the State of Indiana; that the amount in controversy in this suit exceeds the sum of Three Thousand Dollars (\$3,000.00), exclusive of interest and costs; that the Water Company was incorporated in 1881 under the statute of Indiana of that year (Session Laws of 1881, page 60, for the "formation of water works companies by purchasers of the property of pre-existing water works companies, at judicial sale"; that the incorporators of the complainant Water Company were the purchasers at judicial sale of the property of the Water Works Company of Indianapolis; that the complainant was incorporated for, and its business throughout its corporate existence has been, to furnish the City of Indianapolis and its inhabitants, and persons in and near the City of Indianapolis, with water through mains laid in the streets and other public places of the City of Indianapolis, and in other places where the complainant had authority to lay such mains; that throughout all said time the complainant has furnished, by arrangement with the City of Indianapolis, fire protection through public fire hydrants and fire cisterns, the latter owned by the city, located at such places in the City of Indianapolis as the City of Indianapolis, as a contracting party, directed they should be located; that by the

statute of 1881 your complainant, as is expressed in that statute, acquired the rights of said Water Works Company of Indianapolis, as those rights were evidenced by the statute under which the old company was formed, viz: the Indiana Statute of 1865 (Session Laws of 1865, page 103, entitled, "An Act to authorize the formation of companies for the construction of water works, in and for incorporated cities, to enable such cities to subscribe for stock in such companies, and to issue and sell bonds for the payment thereof"; that one of the provisions of said statute of 1865 was that the city [fol. 4] for which the water works were established, in this instance the City of Indianapolis, should have certain authority, by way of veto power, over the water rates that should be established by the corporation, but that no such power should be exercised by such city that would prevent the water works company from realizing upon its capital stock an annual income or dividend of ten per cent, after paying the cost of all necessary repairs and expenses and that to such cost of necessary repairs and expenses should be added "one-half per cent per annum, which may be set apart and reserved as a surplus or contingent fund".

The complainant further avers that from 1881 up to May 1, 1913, it has from time to time, as it established water rates, submitted the same to the proper authorities of the City of Indianapolis, and that no such rate so submitted has ever been vetoed or annulled by the City of Indianapolis; that since May 1, 1913, when the Indiana Public Service Commission Statute became effective (Session Laws of 1913, page 167), the complainant has in like manner submitted its rates, from time to time, as complainant made changes in them, to the Public Service Commission of Indiana, in pursuance of the provisions of that Act, and complainant has enforced and collected during all that time the rates authorized by such Public Service Commission of Indiana without objection, whether such a rate was as high as, or lower than the rates asked for by the complainant.

That heretofore, on the 8th, day of June 1923, the complainant filed with the Indiana Public Service Commission a petition asking that its property used and useful in its business as a public utility in furnishing the City of Indianapolis its citizens, and people living near Indianapolis, with water for domestic use, commercial use and fire protection, and other municipal uses, be valued by the Commission [fol. 5] and that a schedule of water rates based upon the fair value of such property should be established by the Commission as would yield to the complainant a reasonable rate of return. That thereafter the complainant filed with the Commission, and the Commission accepted, on July 14, 1923, an amended petition on the same subject, together with a schedule of water rates which complainant, unless prevented by the Commission, would put in force; that said amended petition, and said schedules of rates made a part of it, are hereby filed with and made a part of this bill of complaint, and marked Exhibit A and Exhibit A-1, respectively.

That in response to said amended petition, and after notice given by said Commission according to law of the date of the hearing of said petition, the City of Indianapolis, the Chamber of Commerce

of the City of Indianapolis, and various labor unions, civic clubs, and other organizations, appeared before said Commission in resistance of said amended petition; that the Commission heard evidence of both sides for a great many days, heard oral argument, and received printed and written briefs, and thereupon, on the 28th, day of November 1923, entered an order valuing the property of the complainant used and useful in its said business, and made, in answer to the prayer of said amended petition, a schedule of rates, with rules and regulations. That the value so found by the Commission of the used and useful property was greatly less than the value claimed by the complainant in its said amended petition, and that the rates so established by the Commission were greatly lower than the rates sought to be put in force by the complainant according to the schedules so made part of its said amended petition.

That the value as the Commission declared of the complainant's property used and useful in its said public service business, as of May 31, 1923, as declared in the order of the Commission, was "not [fol. 6] less than \$15,260,400.00", which figure, as is declared in the order, included all additions and betterments made up to May 31, 1923, and, as the order shows on its face, embraced no additions and betterments made between May 31, 1923, and November 28, 1923, the date the order was issued, although the evidence produced before the Commission, and before the issuance of such order, showed that the complainant had, after May 31, 1923, actually spent several hundred thousand dollars, and was under contract for work then under way to the extent of about \$400,000 more, making in all the additions made during that period, and not embraced in the valuation of the Commission, between \$650,000.00 and \$700,000.00 in money.

Complainant further says that the schedule adopted by the Commission was, except in the respects hereinafter mentioned, a perpetuation and repetition of the schedule of rates then on file with the Commission, and then being enforced by the complainant; that the rate so declared by the Commission was identical with the rate so filed with the Commission and in force at the time the complainant so filed its amended petition as to all flat rate consumers, which comprised 42,000 of the 53,000 patrons of the complainant; that the material changes made by the Commission in its rates herein complained of from the rates then in force, and therefore, as aforesaid, authorized by the Commission, were: (1) to take from the City of Indianapolis all "free water" and to allow a charge for said water at the meter rates established for other consumers; (2) to change the price for fire protection from \$60.00 a hydrant to a combination of \$12.00 per annum per hydrant as a hydrant repair fee, and a rate per "inch-foot" of mains based on the length and diameter of mains of six inches or more, now in place or hereafter put in service; and (3) to decrease the monthly fixed charge of $\frac{5}{8}$ inch [fol. 7] meters, those commonly used by domestic consumers, and to increase the meter charge to large consumers, which increase complainant avers was made to bring the price paid by such large meter consumers slightly above the actual cost of pumping, such rates having theretofore been below such actual cost.

The Water Company files herewith, as a part of its bill of complaint, and marked Exhibit B, a copy of the said order of the Commission issued on November 28, 1923, and a copy of the schedule of rates issued by the Commission as a part of such order, marked Exhibit B-2.

The Water Company avers that at the time it filed its said original petition with the Commission, the fair value of its property used and useful in its public service business was in excess of and not less than \$18,000,000, and that such value, by betterments and additions, at actual cost, had, by the 28th, day of November 1923, been increased by between \$650,000 and \$700,000.

The Water Company further complaining says that the Commission in its said order of November 28, 1923, stated that the Water Company was entitled to a gross income of 7% on the fair value of its used and useful property, and that by such term "gross income" the Commission meant that after paying all expenses of operation, and all taxes, and allowing for depreciation reserve, the Water Company should receive as a reasonable return upon the fair value of its property 7% per annum.

That the Commission in making its order and schedule of rates herein complained of estimated that under the rates obtaining at the time the order was entered, after allowing for certain items of the increased expenses of operation, which the Commission enumerated, the Water Company would have net as a return on its property the sum of \$800,000.00; that under the rates established by the Commission herein complained of the Water Company will receive [fol. 8] not more than \$200,000 additional net revenue, or not more than \$1,000,000 per annum net revenue in all, which sum is materially less than 7% of the value of the Water Company's property used and useful as of May 31, 1923, as found by the Commission in the order complained of, and which amount is approximately 6% of the value of the Company's property as found by said order when augmented by said additions and betterments made up to November 28, 1923, of which additions and betterments the Commission had knowledge from the evidence at the hearing before the order of November 28, 1923, was made.

That the schedule of rates established by the Commission, and herein complained of, will yield net on the real fair value of the Water Company's property as of May 31, 1923, as hereinbefore alleged, used and useful in its public service business, approximately 5½%, and will yield on such fair value, when increased by the cost of additions and betterments made up to November 28, 1923, as hereinbefore alleged, less than 5½%.

The complainant avers that the denial to the Water Company of a net return on the fair value of its property, as such value is hereinbefore alleged, as low as will result from the enforcement of the Commission's order and rates set out in Exhibits B and B-2, is a taking of the Water Company's property without compensation, without due process of law, and is a denial to the Water Company of the equal protection of the laws, all in violation of the provisions of the Constitution of the United States, and of the State of Indiana;

and that such denial will, for several years to come, be progressively greater because, as was shown in evidence before the Commission, the Water Company will, in 1924, if its hopes are realized, expend in new additions and new betterments about \$1,000,000 and about the same amount in the year 1925, and the year 1926, and that, as was shown in the evidence before the Commission, a large part of the additions and betterments made in 1923, and those to be made in [fol. 9] 1924 and 1925, will be in feeder mains to improve pressure, on which mains there will not be any material new revenue-paying consumers.

And the Water Company further avers that if the "spot" value of labor and material during the year 1923 should be applied in determining the fair value of its property owned throughout that year, and used and useful in its public service business, the fair value of such property was and is in excess of \$22,000,000, as was established by the evidence before the Commission.

That under no rate in force within the past five years, all of them being rates established by, or approved by, the Commission, did the Water Company earn net as much as 5% on the fair value, during those respective periods, of its property then used and useful in its public service business.

For as much, therefore, as the complainant is without full and adequate remedy save in a court of equity, it prays that a writ of subpoena issue out of this Court, directed to the defendants, and each of them, requiring them, and each of them, on a day certain therein to be named, to appear before this Honorable Court, and to answer all and singular the matters herein averred, but not under oath, an answer under oath being hereby expressly waived, and that each of said defendants be required to stand to and abide such orders and decrees of this Honorable Court as may from time to time be made herein; that on final hearing of this cause a perpetual injunction shall issue out of this court restraining the defendants, and each of them, in his official capacity, from enforcing or attempting to enforce the rates, tolls, charges and schedules hereinbefore complained of, and restraining the said defendants, and each of them, in his official capacity from interfering in any way with the enforcement and collection by the Water Company of the rates, charges, tolls and schedules so established by the Water Company, and so [fol. 10] made part of its amended petition with the Commission, and set out in this bill as Exhibit A-1, and that the said defendants, and each of them, in his official capacity, be enjoined from in any way putting in force, as a rate-making base for the Water Company, any value less than \$18,650,000.00 as of November 28, 1923, and your orator reserves the right, if it shall be so advised, pending this suit to apply for a temporary restraining order or a temporary injunction restraining the defendants as above prayed.

And your orator prays for all further relief to which in equity it may be entitled.

Indianapolis Water Company, by Baker & Daniels, its Solicitors. McInerny & McInerny, Fred B. Johnson, Baker & Daniels, Solicitors.

[fol. 11]

EXHIBIT A TO BILL OF COMPLAINT

STATE OF INDIANA:

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of the Application of the INDIANAPOLIS WATER COMPANY to Increase its Rates for Water in the City of Indianapolis,

Amended Petition

Comes now the above named Indianapolis Water Company and respectfully shows and represents to the Commission:

1. That it is a corporation organized and doing business under the laws of the State of Indiana.

2. That its principal place of business is in the City of Indianapolis, Marion County, Indiana, and that it is a public utility engaged in the business of distributing water for municipal business and domestic purposes in said city, and as such public utility is subject to the provisions of the laws of the State of Indiana.

3. That under the provisions of the laws of Indiana it is unlawful for any public utility doing business within the State of Indiana, to demand, collect or receive a greater compensation for any service than the charge fixed by it on the lowest schedule of rates for the same service.

4. That at the present time, it has in effect in the said City of Indianapolis certain rates, tolls and charges for water as specified in an order of your Honorable Commission, known as No. 5798, approved March 21, 1921, which said rates, tolls and charges are on file with your Honorable Commission under P. S. S. I. No. —, Page —.

5. Petitioner further says that in an order of your Honorable Commission approved January 2nd, 1923, the property of the Indianapolis Water Company, both tangible and intangible, are fixed and determined to be in the sum of \$16,155,000.00; that extensions [fol. 12] and betterments to the property heretofore authorized to be constructed during the year 1923, and work upon which is now well underway, will approximate the sum of \$750,000.00, bringing the aforesaid valuation of the Commission upon the physical and intangible values of Petitioner's property to about \$17,250,000.00.

6. Petitioner further says that the aforesaid rates, tolls, and charges heretofore authorized by your Honorable Commission and now in force in said City of Indianapolis are insufficient and inadequate to realize upon the volume of business done by this Petitioner, and in excess of operating costs and taxes a sum sufficient to pay a reasonable rate of return upon the fair value of petitioner's said property. That for the year 1922, and for several years prior thereto,

the gross income of this Petitioner has amounted to approximately 5% upon the value of Petitioner's property as found by your Honorable Commission.

7. Petitioner further says that during the year 1922, and since the year 1916, Petitioner has been allowed to set aside annually for depreciation reserve purposes, a sum equal to eight-tenths of one percent, of its property; that the annual cash amount so set aside for the year 1922, was in the sum of about \$87,000.00; that a reasonable sum required to be set aside for replacement reserve purposes to properly protect its physical properties is at this time not less than \$160,000.00; that the net income of this Petitioner for the year 1922 was about \$846,000.00, and if the reasonable sum of \$160,000.00 had been set aside for depreciation reserve purposes, the gross income of this company would have been reduced below 4½% on the fair value of its said property.

8. Petitioner further says that the valuation of its property for taxation purposes has been materially increased for the year 1923, said increased payment amounting to something in excess of \$40,000. That such increase in the annual tax expenditure will wipe out more than one-half of any increase in the net earnings of the [fol. 13] company due to an increased volume of business during the current year, and the balance of such increased net for said year will not be sufficient to meet fixed charges upon the investment for extensions and betterments for said year.

9. Petitioner further represents that it has just completed an exhaustive study of the present and future water requirements of the City of Indianapolis by competent engineers skilled and experienced in making all surveys of needed water supply for municipalities. The Petitioner is advised and believes that to care for the water necessities of the City of Indianapolis for the next fifteen years, and to protect the city in its fire prevention service an investment in procuring additional water supply, filtration and pumping capacity, feed mains and additional distribution system, will be required in an amount of approximately eight millions of dollars, if the water service of Petitioner is put upon a metered basis, and an amount exceeding ten millions of dollars if the present flat rate system of charging for water service be continued; that approximately \$4,500,000 of said expenditure must be made within the next three to five years, and that approximately \$3,000,000 of said program of expenditures will add no immediate increase in the volume of Petitioner's business or revenues, but are required to strengthen service conditions and to maintain a proper standard of water service for fire prevention purposes.

10. That by reason of a large amount of non-revenue producing construction work and the increase in annual fixed charges and taxes resulting from such additional investment, the revenues of Petitioner under the schedule of rates now in effect will produce an even lower net income than has been visited upon the company in the immediate past under said rates; that the limited earnings of

this petitioner make it impossible for Petitioner to finance the large [fol. 14] investment herein recited without an increase in its water rates; that the expenditures as petitioners purposes to make in carrying out the recommendation of its engineers are essential to continue good service, and to Petitioner's ability to care for the continuance of the growth of the City of Indianapolis; that Petitioner's continued operation under the low water rates now in effect will result in an impaired credit for the company and inability to meet the reasonable requirements of the City of Indianapolis and its people, and ultimately, a weakened and impaired service.

11. That Petitioner attaches hereto a proposed schedule of rates, tolls and charges for Water Service in said City of Indianapolis which said proposed schedule is marked Exhibit (A) and made a part hereof and which said proposed schedule of rates will in the judgment of Petitioner produce a net income equal to a reasonable rate of return upon the fair value of Petitioner's said property used and useful in said water service in said city.

Wherefore, Petitioner prays that a hearing may be had on the subject matter of this amended petition and that after due investigation your Honorable Commission authorize and direct this Petitioner to put into effect said proposed schedule of Water rates or such other rates as in the judgment of the Commission will properly distribute the cost of said water service and in addition thereto will accrue a net income representing a reasonable rate of return upon the fair value of Petitioner's said used and useful property.

Dated at Indianapolis this 13th day of July, 1923.

Indianapolis Water Company, by ———, President.
————, Attorneys for Petitioner.

(Here follows Exhibit A' to Exhibit A, marked side folio pages 15, 15½, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 25½ and 26.)

[fol. 27] EXHIBIT B TO BILL OF COMPLAINT

STATE OF INDIANA:

PUBLIC SERVICE COMMISSION OF INDIANA

No. 7080

In the Matter of the Petition of the INDIANAPOLIS WATER COMPANY
for Authority to Increase Rates

Approved November 28, 1923

1. Valuation—Taxation.

The assessed valuation of a utility for taxation is one element to be considered in evaluating a property, but because certain intangible values are not listed for taxation does not authorize the Commission to disregard such values.

EXHIBIT A¹ TO EXHIBIT A

Schedule of Water Rates

AND

Rules and Regulations

OF THE

**INDIANAPOLIS
WATER COMPANY**

Office: No. 113 Monument Place
Indianapolis

Special attention of Consumers is called to the City
Ordinances found on the last page of this book.

Schedule rates payable quarterly in advance. Meter
bills payable on first day of month following that
during which the water is consumed.

DEFINITIONS

COMPANY.

1. The word "Company" wherever the same appears herein, means the Indianapolis Water Company, an Indiana corporation.

CONSUMER.

2. The word "Consumer," wherever the same appears herein, means the person, firm or corporation or association having an interest, whether legal or equitable, sole or only partial, either as tenant or occupant, in any premise which is, or is about to be, supplied with water by the Company, and the word "Consumers" means all so interested.

ROOMS.

3. In counting the number of rooms in any dwelling, omit the reception hall, unless this is designed for use as a living room; omit also the pantry and laundry, if such there be, even when these rooms are not directly communicating with the kitchen; omit also the bath room, alcove, except when used as sleeping rooms, and the attic except to the extent that the latter is subdivided into sleeping rooms or other rooms of habitation.

SEASON.

4. The word "Season," when used in connection with flat rates for domestic uses, means the portion of the year when sprinkling is desired by the consumer; as this depends a good deal upon the weather, the rate is for either a part or all of the season.

HOUSE USE.

5. "House Use" means the use of water in a private family kitchen for cooking drinking, washing and cleaning. It does not include the use of hose, sprinkling, or such fixtures as water closets, bath tubs, nor the use of water for horses, or for washing vehicles.

Schedule of Water Rates

OF THE

Indianapolis Water Company

AIR COMPRESSORS.

Air Compressor for cleaning purposes.

When Air Compressor is equipped with tank system

Without tank system, per month

AIR PUMPS.

For each Air Pump or Motor, when operated at 15 pounds pressure

When operated at 20 pounds pressure

When operated at 25 pounds pressure

Service for Air Pumps operated at higher pressure.

Meter measurement only.

Air Pump for Physician's office, one connection

Air Pump for Physician's office, two connections

Air Pump for Physician's office, three connections

Not allowed except in connection with general use.

BAKERIES.

For each Bakery for the average daily use of flour for each barrel

Provided, no bakery shall be charged less than \$10.00 per annum.

BANKS.

For each Bank, with one faucet

Each additional faucet

Or meter measurement.

BARBER SHOPS.

For each Barber Shop not exceeding two chairs

For each additional chair

BATHS.

For each bath tub in public bath house

For each bath tub in private family

For each bath tub in boarding house

Where there is a washstand in the bath room the charge will be the same as if the water was connected with the bath tub proper.

For each additional bath tub in private family

For each additional bath tub in boarding house

Provided, that in all cases where faucet at the bath tub is the only water connection in the

COPY BOUND CLOSE IN CENTER

INDIANAPOLIS WATER COMPANY

Building, black or hotel, an additional charge for
 (a) treatment, or other general uses will be
 at the usual rates for such uses.
 over bath over bath tub, no extra charge.
 over bath alone same rate as bath tub.

BLACKSMITH SHOPS.

For three fires or less.....per annum
 For additional fire.....per annum

BOARDING HOUSES.

For each room.....per annum

BOTTLING BEER.

Beer rates.

BUILDING RATES.

Gravel bank, 25,000 or less.....per 1,000 \$0.10
 For additional thousand over 25,000..... .075
 No charge less than \$1.00.
 Gravel stone.....per yard .03
 No charge less than \$1.00.
 Graveling.....per 100 yards .30
 No charge less than \$1.00.
 Gravel stone-facing.....per 100 yards .30
 No charge less than \$1.00.
 Gravel and Mosaic.....per square yard .40
 No charge less than \$1.00.
 Graveling.....per 100 square yards .25
 No charge less than \$1.00.
 Gravel buildings.....1 story 2.00
 For additional story..... 2.00
 Gravel filling, 3 in. or less.....per square yard .001
 Gravel filling, 4 in. or less.....per square yard .001

CONCRETE WORK.

For inches thick or less.....per sq. yd. \$0.001
 For inches to 6 inches thick.....per sq. yd. .011
 For inches to 8 inches thick.....per sq. yd. .011
 For each yard, 1,000 cubic yards or less..... .05
 For second 1,000 cubic yards..... .06
 All in excess first 2,000 cubic yards..... .03
 No charge less than \$1.00.
 Gravel Patches, each..... .75
 Gravel Blocks, per 100 blocks..... .10
 No charge less than \$1.00.
 Gravel Curbing (without gutters), per foot..... .001
 Gravel gutter, per foot..... .001
 No charge less than \$1.00.
 Gravel concrete or pavement in addition to above
 charge.....per sq. yd. .001
 Gravel street, in addition to above charges
per sq. yd. .001
 No charge less than \$1.00.
 Gravel Ridges, 3 ft. P. or less, per month
 or fraction thereof..... 3.00

SCHEDULE OF WATER RATES

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Each additional H. P. up to 10, per month..... 1.00
 Each additional H. P. over 10, per month..... .50

CANDY FACTORIES.

Meter Rates.

CHURCHES.

For each church with baptistry.....per annum 5.60
 For each church without baptistry.....per annum 3.40
 Church organ service supplied through 2 inch line..... 28.00
 Service supplied through 2 1/2 inch line.....per annum 33.60
 Service supplied through 3 inch line.....per annum 48.00
 or meter rates.
 If organ is used for instruction, double rates
 unless metered.
 Chimes, each..... 3.40
 Sprinkling, 50 per cent. of house rates.

DELIVERY WAGONS.

See Stables

DENTAL OFFICES.

Dental office, one chair.....per annum 6.75
 Each additional chair.....per annum 4.50
 Dentist's Caspider, supplied through 1 1/2 inch
 connection.....per annum 5.60
 Each additional 1 1/2 inch in size of supply..... 5.60
 Caspidors not allowed except in connection with
 general uses.

DWELLINGS.

For each Dwelling House of one or two rooms,
 occupied by one family.....per annum 3.40
 For each Dwelling House of three rooms, occupied
 by one family.....per annum 4.50
 For each Dwelling House of four rooms, occupied
 by one family.....per annum 5.60
 For each Dwelling House of five rooms, occupied
 by one family.....per annum 6.20
 For each Dwelling House of six rooms, occupied
 by one family.....per annum 7.00
 Each additional room.....per annum 1.15
 Each additional family.....per annum 3.40
 Lodgers or roomers, when no meals are taken,
 in addition to family charge, each..... 1.15
 No charge for laundry tubs and wash-stands in
 connection with family use.
 Yard hydrants and hose fixtures where used by
 more than one family will be charged for at
 regular rates for each family.

DYEING AND SCOURING.

For each faucet.....per annum 9.00
 or meter rates

FISH, OYSTER OR POULTRY HOUSES.

Meter rates.

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FIRE PROTECTION LINES.

For Use Only in Extinguishing Fires.	
For Fire Service from 2-inch line for stand pipe	2250
.....per annum	
For Fire Service from 2-inch line for stand pipe	5050
.....per annum	
For Fire Service for Automatic Sprinkler Service	6700
through 3rd 4-inch line (maximum heads, 700)	
.....per annum	
For each additional 4-inch connection for same	6200
purpose	
.....per annum	
For Private Fire Hydrant	6700
.....per annum	
No fire lines run into building of fire lines supplied	
with water unless water is taken also for	
general purposes	7500
.....per annum	

Public Fire Hydrant	7500
.....per annum	
Flash tanks supplied through 1-64 inch connection	670
.....per annum	
Each additional 1-64 inch in size of connection	560
Or meter rates.	

FOUNTAINS.

One-sixteenth of an inch opening	1120
Each additional 1-16 inch up to 1 inch	900
Tumbler washers, Meter Rates.	

GAS ENGINES.

Meter Rates.

GREENHOUSE.

Meter Rates.

HOUSE USE.

House use shall be in connection with family use and	
the additional charge for each use shall be as follows	
For a lot 20 feet or under	500
For each additional foot over 20 feet	14
For washing sidewalks only, in connection with	
family use, where houses are built flush with	225
street	
Where family use is had through hydrants, or	
other fixtures having threads to fit hose couplings,	
the sprinkling charge also must be paid.	

SPRINKLING SERVICE shall cover the right to use water through a hose not more than five-eighths of an inch in diameter, equipped with regulation nozzle, and the use shall be limited to the washing of windows, porches and parsonage, and the sprinkling of gardens, lawns and streets. This use is limited to three hours a day and to the sprinkling season, namely: March 1 to December 1, but sprinklers can not be used at all during the time of snow.

A CITY ORDINANCE IMPOSES A FINE OF \$100.00 FOR USING THE SPRINKLER DURING A FIRE.

THE THREE HOURS FOR SPRINKLING ABOVE RE-

SCHEDULE OF WATER RATES.

FERRED TO SHALL BE BETWEEN 2 AND 3 A. M. AND 6 AND 9 P. M.

No water shall be used through a hose except with a nozzle of not more than 1-inch opening, and water shall be so used only while the hose is held in the hand of the operator. Any use of water through a hose other than as above permitted will be a violation of rules, for which the supply of water may be shut off and discontinued.

Yard hydrants shall not be located nearer than three feet to the street, property line, nor over any dock or sewer connection.

The sprinkling charge is a season charge and must be paid for as an entirety.

NOT WATER HEATING

For a house of eight rooms or under	per annum
For each additional room	per annum
Not allowed except in connection with general house work.	

HYDRAULIC ELEVATORS

Sidewalk Hoists.

Meter Rates.

LIVERY STABLES.

See Stables.

EXPRESS, HACKS AND OMNIBUSES.

See Stables.

MANUFACTURING.

For drinking, washing hands, tea parties or less	per annum
For each additional person up to twenty	per annum
For each person over twenty	per annum

METER SERVICE

		Rate Per 100 <u>Cubic Feet</u>
For the first	1,000 cubic feet used monthly - -	\$.20
For the next	2,000 cubic feet used monthly - -	.19
For the next	3,000 cubic feet used monthly - -	.17
For the next	6,000 cubic feet used monthly - -	.16
For the next	54,600 cubic feet used monthly - -	.10
For the next	66,700 cubic feet used monthly - -	.08
For all over	133,300 cubic feet used monthly - -	.06

No demand or standing ready to serve charge will be made for meters where monthly use exceeds the following quantities:

For 5/8" Meter - - - - -	875 Cubic Feet
For 3/4" Meter - - - - -	1,789 Cubic Feet
For 1" Meter - - - - -	2,842 Cubic Feet
For 1 1/2" Meter - - - - -	4,588 Cubic Feet
For 2" Meter - - - - -	7,312 Cubic Feet
For 3" Meter - - - - -	15,500 Cubic Feet
For 4" Meter - - - - -	27,500 Cubic Feet
For 6" Meter - - - - -	51,500 Cubic Feet

For monthly use of less than above quantities the total charge, including demand and water used, is as follows:

For 5/8" Meter - - - - -	-\$ 1.75
For 3/4" Meter - - - - -	3.50
For 1" Meter - - - - -	5.50
For 1 1/2" Meter - - - - -	8.50
For 2" Meter - - - - -	13.00
For 3" Meter - - - - -	24.00
For 4" Meter - - - - -	36.00
For 6" Meter - - - - -	60.00

1.000, 25.00, 50.00, 100.00, 200.00, 500.00, 1000.00.

MOTORS FOR POWER.

One-sixteenth inch jet.....	per month	2.70
One-eighth inch.....	per month	3.70
Three-sixteenths inch.....	per month	4.60
One-fourth inch.....	per month	11.50
Three-eighths inch.....	per month	13.50
Not allowed except in connection with general use.		

Municipal Service

All municipal service, including municipal buildings, fire stations, street and sewer flushing, city parks, fountains, swimming pools, etc., but excluding public fire hydrants — Meter Rates.

uses.

OFFICERS.

For each office of professional person, other than dentist.....	per annum	4.50
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PHOTOGRAPH GALLERIES.

Meter Rates.

RADIATORS.

Water for circulating and flushing radiators for first 200 feet or less of radiation.....	per annum	1.15
Each additional 100 feet.....	per annum	.55

Meter Rates.

RESTAURANTS.

SALOONS.

For each saloon, first faucet.....	per annum	13.50
For each additional faucet.....	per annum	6.70

FLUSHING SEWER TRENCHES FOR FURNISHING WATER FROM FIRE HYDRANT.

For trench flushing for first two hours' service.....		12.50
For each additional hour of service.....		3.40
For furnishing water for cleaning existing sewers.....	Special Permit	

SODA FOUNTAINS.

For each soda fountain with one faucet.....	per annum	11.20
Soda fountain with constant flow 1-16 inch opening.....	per annum	33.60
Or Meter Rates.		
Not allowed except in connection with general store uses.		

STABLES.

For each private stable (without carriage wash- ing), first horse.....	per annum	2.25
For each additional horse.....	per annum	1.15
For washing carriages, each.....	per annum	3.40
Washing automobiles, each.....	per annum	5.00

LIVERY STABLES.

Ten stalls or under, each.....	per annum	28.00
Each additional stall.....	per annum	2.25
No charge less than \$5.00.		
Or Meter Rates.		

Rules and Regulations

OF THE

Indianapolis Water Company

1. RULES A PART OF CONTRACT. The following rules shall be a part of the contract with every person who uses water supplied by this Company, and every such person shall be considered as having expressed his consent to be bound thereby.

2. APPLICATION AND CONTRACT. Written application for water service connection, on the Company's application form, must be made at the office of the Water Company by the owner or occupant of the property for which water service is desired. Before water will be turned on the consumer shall sign a contract setting out the uses for which water is desired. In case of misrepresentation on the part of the consumer or of the use of water not embraced in his contract, or of willful or unreasonable waste of water, the supply of water may be shut off and discontinued.

No contractor, builder or any other person shall use water for building purposes, whether such water is drawn from a service pipe controlled by a meter or not, unless such contractor, builder or other person shall have made application at the office of the Water Company in writing for such water, accompanied by a certified estimate of the amount of brick, stone, cement, concrete, and other purposes for which water is required for the completion of his contract, and shall have received therefor a permit from the Water Company showing that payment has been made according to the established rates.

No person supplied with water by the Company for domestic or other uses shall permit any contractor, builder, or other person to take water through his service connection to be used for building purposes, cement or concrete work, or other purposes, unless such contractor, builder or other person shall first exhibit a duly authorized permit therefor from the Water Company.

3. PAYMENT OF RATES. Schedule water rents shall be due and payable quarterly in advance, at the office of the Water Company, on the first day of each quarterly payment period. Season rates shall be due and payable in advance for the whole time on the first day of March.

Metered water rates shall be due and payable monthly. The Water Company reserves the right to discontinue the supply of water to any consumer who shall not pay his bill when due.

A consumer desiring water turned off, and charges paid in advance refunded for the unexpired time, must present his receipted water bill.

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INDIANAPOLIS WATER COMPANY

4. TAPS AND SERVICE CONNECTION. When application is made for water for applicant shall report to the Water Company the name of a licensed plumber engaged to do his work. The Company shall thereupon issue to said plumber a permit for the work. In all cases where permits are granted, the Water Company will tap the mains for the applicant at its own expense. The service pipe, stops and other fixtures shall be installed at the applicant's expense, and shall be kept in repair and protected from damage by frost by the applicant. All work done in the streets in laying service pipe shall be at the applicant's expense and risk, and all pipe and fixtures except the tap located in the Company's main shall continue to belong to the owner of the property served thereby.

No building will be supplied with service pipes from more than one main.

5. RESTRICTIONS AND PRIVILEGES. No person or owner of any building, into which water is introduced will be allowed to supply water to any other person or families, except by permission of the Water Company. In case two or more persons or families are so supplied with water from the same service pipe, if either fails to pay his water rent, when due, or to comply with any rule of the Company, the water may be shut off from such pipe by the Company and the service discontinued to all persons supplied by said service main until the rent is paid and the rules complied with.

No water closet, urinal, or other apparatus of any kind requiring a continuous flow of water will be permitted, unless the service is metered. In all metered premises, water closets, urinals, and all cold water fixtures must have self-closing valves of a type approved by the Water Company.

It is expressly stipulated that the Water Company shall not be liable for any damage done by reason of the breaking of, or defect in, any of the consumer's pipes or appliances.

Every service pipe shall be laid at a depth of not less than 1½ feet throughout its length and where it enters the building shall not be less than that depth and on the inside near its foundation wall where it enters shall be provided with meter connections and with a "compression stop and waste" cock approved by the Water Company which shall at all times be kept free of obstruction to the end that the consumer may thereby conveniently shut off the water and drain his pipes in case of necessity.

No additions or alterations in or about any water conduit, pipe, or fixtures shall be made without permission in writing from the Company. Free access must be given to the Company at all reasonable hours for the examination of pipes and fixtures, and for the taking of meter statements. Where access is denied the supply of water may be discontinued.

to the use of each application the Company reserves the right to name the size of tap to be inserted in the wall. Applicants desiring a tap larger than the size named will only be granted the right to such larger tap on condition that they pay a suitably larger price for such use desired.

Whenever these rules provide for shutting off the water, the Water Company may, at its election, shut it off either at the curb box or at the Company's tap in the main.

Whenever the Water Company has turned off the water from any service connection because of violation of law, or non-payment of bill, a charge of one dollar shall be made to cover the expense of turning on and this charge must be paid by the consumer when a turn-on order will be issued.

LEAKS AND REPAIRS. The Water Company reserves the right to shut off the water at the tap in any case where there is waste of water or reason of a leak between that point and the shutting off at the curb and to shut off the water at the consumer where there is such waste of water between the tap and the property line, or within the consumer's premises, and to keep the water off until the consumer shall have repaired the defect, and until the consumer shall have paid to the Water Company the price charge of one dollar (\$1.00).

VIOLATION OF RULES. For the violation of any of these rules the Water Company reserves the right to shut off the water without notice, and on so doing will not pay increased water rate paid in advance after turning therefrom the reasonable value of any water used or taken in violation of the rules. When the water has been shut off by the Water Company, it will not be turned on except on application from the consumer, the payment of the turn-on charge, and when the Company's agent turning it on has access to the side of the house. It will be turned on only in a regular order of the receipt of successive turn-on orders, and the Company need not do it in the night.

Whenever the Water Company has turned off the water from any consumer for any reason, the consumer shall not turn it on, nor permit it to be turned on, without the written consent of the Company.

LIMITATES. There will be no abatement of water use a whole or in part, by reason of the extended time of the consumer, or for any other cause, unless a stop has been turned off by the Water Company, upon desiring that their water shall be turned

off to the end that the water rates may be stated shall notify the Company in writing to turn the water off, and from the time of such notice until the water shall be turned on at the consumer's request, the water rates shall abate.

9. METERS. Metered service will be furnished to all consumers at the option of the applicant except in cases where water is used in large quantities as provided in the schedule of rates. The Water Company reserves the right to at any time substitute metered service at its established rates for any service in which there is an excessive use or continued waste of water.

Whenever the Water Company furnishes meter service it may, if in its judgment its protection requires it, exact a reasonable deposit to secure it for the water to be furnished; such deposit shall not exceed five dollars (\$5.00) for each 1/2-inch meter and for larger meters relatively larger amounts based on the capacity of the meter, and every such deposit shall bear interest at the rate of three per cent. per annum payable by the Water Company, or, in lieu of such deposit the consumer, at his option, may furnish a guarantor acceptable to the Company.

Consumers of water by meter will be furnished a meter by the Water Company and the Company will at its own expense maintain the meter. Only one building will be supplied through any one meter.

Wherever a meter, whether put in at the consumer's election or at the Water Company's election, cannot conveniently and safely be located within a building at a place not subject to freezing, the consumer shall construct at a place approved by the Water Company, a meter pit of such material and of such size, shape and depth as may be required to accommodate the meter and to the approval of the Water Company, protected with such cover and locking device as shall have the Water Company's approval.

All meters, whether installed at the election of the consumer or of the Water Company, will be furnished and set by the Water Company in a location selected by it, but the meter will not be set until the consumer shall have provided a proper place and shall have installed proper meter couplings and valves. After the meter shall have been set it shall not be moved or disturbed without permission from the Water Company.

In case of single ownership, any double house, set or other building will be supplied through a single meter when there is but one service pipe into the premises. The applicant, in all such cases, shall pay for all water passing through the meter for the entire premises. When the two halves or parts of a double house, or other building, are in separate ownership, separate meters must be set for each part.

If a meter gets out of order and fails to register, the consumer will be charged during such failure at the average daily consumption as shown by the meter when it was in good order in the same building. All water passing through a meter will be charged for whether used or wasted.

SCHEDULE OF WATER RATES

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Ordinary repairs to meters will be made by the Water Company at its own expense. In case of damage to a meter by reason of any act or omission of the consumer, the consumer shall pay the Company the cost of its repair on presentation of an itemized bill; and in case of theft or complete disconnection of a meter the consumer shall pay the Water Company the full value thereof.

Meters will be tested by the Water Company upon the request of the consumer. But if the test shall establish the accuracy of the meter to within two per cent. either way, the consumer shall pay to the Water Company the actual expense of making the test.

10. BOILERS AND ENGINES. Where water is taken directly from the mains of the Water Company for steam boilers, gas engines, heating plants, and domestic hot water tanks, the Water Company does not guarantee an uninterrupted supply, or a sufficient or uniform pressure, and shall not be liable for any damage or injury done by reason of the interruption of supply or variation of pressure.

11. FIRE PRESURE. During time of fires, and while fire pressure is on the water pipes, water shall not be used for any sprinkling purpose.

12. PLUMBER'S LICENSE. No plumber shall do any plumbing in connection with this Company's system until he shall have executed an agreement to comply with the Company's rules and regulations, and have given to the Company a bond in the sum of one thousand dollars, with surety satisfactory to the Company, and have received from the Company a license.

13. PERMIT. No licensed plumber shall lay any service pipe, or do any kind of plumbing work in any way connected with this Company's system until he shall have obtained from the Company a written permit for doing such work. This rule shall apply to all work done in laying the private service pipe in the street, and to all work done on private premises, whether done in originally introducing the water thereto, or later in making changes.

14. TAPPING. The tapping of any main of this Company shall only be done by its employees.

15. SIZE OF TAPS. The standard tap of the Company is one-half (1/2) inch in diameter. A larger tap can only be had in accordance with Rule 5 above.

16. SIZE OF SERVICE PIPE AND STOPS. All service pipes, from the tap in the main to the "stop and waste" cock on the premises, shall be one-eighth (1/8) of an inch larger in diameter than the tap through which they are supplied. And all stop-cocks, in the line of the service pipe or branches under ground, must be stops with circular water ways of the same diameter as the pipe in which they are placed, and be in every respect equal to the samples in the office of the Water Company.

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INDIANAPOLIS WATER COMPANY

17. APPLICATION FOR INSERTING OF TAPS. In all cases for the insertion of taps into the mains of the Water Company the day before they are required.

Plumbers calling for tapper or inspector are expected to have the tap or inspection made on time, and to save the necessity of a second trip, and while the Water Company will overlook cases where good reason exist for such detention, it reserves the right to make a charge of one dollar to cover expense, with the understanding that this charge will only be imposed upon the circumstances are clearly in favor of its enforcement.

If it becomes necessary to change tapping notice such change must be made by plumber, in person, before 12 o'clock noon of the day said notice of tap was made.

18. CHARACTER OF PIPE AND STANDARD WEIGHT. In all cases service pipe in the streets and alleys must be lead pipe, unless of two inches or above two inches inside diameter, in which case cast iron pipe may be used. All lead pipe so used shall be standard weight, and of the following sizes and weights, viz:

Lead pipe—1 inch bore, 3 pounds,	per lin. ft.
Lead pipe—1 1/2 inch bore, 4 pounds, 10 cts. per lin. ft.	
Lead pipe—2 inch bore, 5 pounds, 12 cts. per lin. ft.	
Lead pipe—2 1/2 inch bore, 6 pounds, 2 cts. per lin. ft.	
Lead pipe—3 inch bore, 7 pounds, 4 cts. per lin. ft.	
Lead pipe—3 1/2 inch bore, 8 pounds, 4 cts. per lin. ft.	
Lead pipe—4 inch bore, 9 pounds, 8 cts. per lin. ft.	

Or two inch extra heavy galvanized wrought iron pipe (hot steel) may be used.

Cast iron pipe shall be subject to a hydrostatic pressure of 250 pounds to the square inch before they shall fail.

All private pipes and stop-cocks in the streets shall be subject to inspection by the Water Company's authorized agent, and if found defective in any respect, their introduction will be prohibited.

The Water Company's experience shows that consumers cannot obtain a satisfactory supply of water where any of their pipes inside the house are of smaller diameter than three-quarters (3/4) inch, and it recommends that of smaller size be used.

19. DEPTH OF SERVICE PIPES. All service pipes to the "stop and waste" cock inside the house shall be laid at a depth of not less than four and one-half (4 1/2) feet under ground. A "stop and waste" cock shall be provided according to rule No. 5 above, and each sill cock and hose bib shall have its separate "stop and waste."

20. OLD SERVICES. In extending a service from the curb box to any premises, no plumber will be permitted to make use of pipe previously run from the same

to the job which does not conform to rule existing in this city such service is to be used, but before making any connection the plumber or owner must first get the Water Company either to reject or consent to such connection. If rejected, the owner will be required to have it changed at his expense, and if an entirely new service shall be put in, the old one shall be disconnected at the main at the expense of the owner before work is turned on to the new service.

Plumbers must not extend pipes from one street number to another without special permission.

When the supply is turned off at the tap by the Water Company on account of leakage, plumbers must get permission from Water Company before repairing the tap.

2. SERVICE INSPECTION. All runs of pipe, whether main or extension work, outside of buildings, and all connected services, must be inspected by the Water Company before covered up. The instruction in regard to this for tapper will apply to call for this inspection.

If the work is done in accordance with the rules the inspector will leave his acceptance with the plumber at the close of the work, and this certificate shall be attached to permit on its return. When the services of the plumber are required it will not be necessary to call for the inspector, as the tapper will furnish his acceptance, if the work is connected up in trench for immediate attachment to main, so that the requirement that pipes must be covered under test when examined may be fulfilled.

When it becomes necessary to make a second or additional inspection of rejected work, a charge of one dollar will be made for each such inspection.

3. DEEP TRENCHES. Water pipes will not be laid in the same trench with sewers, but an extra different trench must be provided for their accommodation. Shells are not allowed where it can be avoided, and special permission must then be obtained of the Water Company.

4. MAIN STOPS. When fifty feet of pipe or more is run to supply premises, an additional stop-box approved by the Water Company must be placed so as to control the run of pipe, and if practicable shall be placed between the curb and walk. This applies also to places where one service from the main is made to a building in supplying several minor services. Where runs are so extended twenty-five feet each way or more in one direction, this box to control the whole run will be required.

5. STOP-CKEYS AND THEIR LOCATION. There shall be a brass stop-key in each service attachment, and shall be operated exclusively by or under the sanction of the Indianapolis Water Company; the said stop-key shall be placed in the pipe just inside the lines of the curbs, or inside the sidewalk where walk is laid to curb, and in front of house supplied.

Each stop-key shall be provided with a cast iron handle sufficiently large to afford ready access with a key

for turning on or off the water. The top of each box shall be placed on a level with the grade of the sidewalk, and be a regulation box such as has been adopted by the Water Company. This box shall be the property of and set by the consumer.

In alleys where there is no sidewalk, stop-locks must be placed within six (6) inches of the side line of the same. Where there is a sidewalk, stop-locks must be placed inside the curb, the same as in streets.

In no case shall stop-locks be placed in vaults under the sidewalk, unless they be so protected or inclosed as to afford no other mode of access, except by the removal of the cover from the box on the sidewalk.

When it shall be necessary to place any stop-lock and box outside the curbing, whereby the danger of breaking or disturbance is greatly increased, roadway cast iron boxes and covers the same as are used by the Water Company must be used. But no stop-lock or box shall be placed outside the curb except with the consent of said Water Company.

25. CHECK VALVES. Check valves will be required on all meter connections to steam boilers.

When a building includes a tank supply in its water system, the tank must be provided with an automatic cut-off to close the inlet when the tank is full.

26. BRANCH SERVICE. A special permit must be secured when it is proposed to put a branch in a service main.

27. WATER FIXTURES ON THE PREMISES. Self-closing valves are required over sinks, wash stands, drinking fountains, urinals, and all other places or uses requiring a faucet, hot water fixtures excepted. Unless self-closing valves are used double the usual rates will be charged. Plumbers should call the attention of patrons to this rule when bidding on work.

28. EXTENSIONS AND ALTERATIONS. For any extensions or alterations in any of the water fixtures of any consumer, written permits from the Water Company must invariably be obtained by the plumber engaged to do the work before any alteration or extensions can be made.

29. EXPANSION OR SLIP JOINT in any supply pipe is not permitted.

Faucets and other fixtures not in common use in Indianapolis, and which have not been approved by the Water Company, shall be submitted for such approval before used in plumbing work.

In plumbing a building where separate services are contemplated in different parts thereof, the plumber shall first submit to the Water Company for its information a plan showing his proposed work.

30. RE-ISSUE. No attachment to any water pipe or fixtures in premises from which the water has been shut off shall be made without an application and permit for the same from the Company. Nor shall any alteration in any water pipe or fixture supplied from

the Water Company's main be made without a written permit therefor from the Company.

31. TURNING OFF WATER. In no case shall any plumber after the completion and trial of any job of plumbing work, be in the first introduction of service pipe, an extension or a repair, leave the water on the premises, but he shall in all cases close the stop-cock on the sidewalk and return the permit.

Exception: When a plumber makes changes in the fixtures of a house where the water is on, whereby there is an increase or decrease of the use, and the plumber wishes to leave the water on, he will be given a slip permitting him to do so, if he applies for the same when he takes out his permit. This slip is attached to and returned with permit, stating that the water is on and the curb box in proper condition.

32. TESTING WORK. The water must not be turned on to any premises except by the Water Company's inspector, but may be temporarily turned on by the plumber to test the work, to be turned off immediately after the test is made.

All plumbing must be thoroughly tested before a permit is returned to the Water Company's office.

33. DEFECTIVE WORK. Whenever the Water Company's inspector finds a job of plumbing that is obviously defective, although not in direct violation of any of these rules, the Company will refuse to turn on the water.

34. FIRE LINES. Fire protection lines within buildings must be put in in such manner that all pipes will be open and easily accessible for inspection at any time. No connection for any other purpose whatever will be permitted with fire service. Service tanks to furnish air pressure for dry system must be connected with a metered service, and not with a fire service.

All water service lines which furnish private fire protection service or which are in any way connected with the lines of any duplex water system shall be provided with approved double check and gate valves, equipped with bleed or detector and installed in a properly constructed valve pit located just outside of the property lines of the consumer's premises, all subject to the inspection and approval of the Water Company.

35. ELEVATOR LINES. No fixture for general use can be attached to elevator, standpipe or motor lines, but must be entirely separate from such.

Plumbers must not furnish to others keys for elevator valves or stop-boxes.

36. FERRULES. In every case where an old line of service pipe shall have been abandoned for any cause, the plumber must dig up the street at the point where the ferrule for said service is inserted in the main distributing pipe, in order that the old ferrule may be withdrawn and a brass plug inserted in its stead, as no new tap will be inserted until old tap is discontinued.

37. PLUMBERS' RETURNS. Plumbers shall make and complete reports of the work for and to which any permit is applied under any permit granted. Said return must be made by the plumber doing the work within forty-eight (48) hours after the completion of said work as the work will not be turned on any premises until after said return is made. Inspection made by the Water Company, and various hours, as provided in the rules and regulations, shall be in accordance with the rules and regulations herein prescribed. In no case must a permit be held out longer than thirty days, unless it shall be the completion of work in a new building.

Plumbers shall not supply water to any person for any connection while his work is being done and is unfinished.

38. HYDRANTS AND HOSE THREADS. If known, the plumber that the applicant does not want the use of, the plumber must saw off the hose connection and return the permit to the office, and note that fact in report.

Yard hydrants will not be allowed over sinks or sewer connections of any description.

39. METER CONNECTION. Plumbers are required to take out permits in all cases for installing meter connections, and receive instructions from meter inspector.

40. OUTSIDE CLOSETS. Anti-freezing closets must only be installed in connection with house use and metered service.

41. PLUMBERS' PENALTIES. Should any plumber be found standing procure or attempt to procure taps or permits for the benefit of a suspended or unlicensed plumber, the license of such plumber will be revoked.

No plumber shall give or loan a curb stopkey to any person.

In all cases where water is left on by the plumber in violation of rules, and in every case where any fixture is attached without a proper report of them being made within the required time by the plumber doing the work, said plumber will be required to pay the water rate on the premises for such time as the water was turned on.

A plumber failing to comply with any of these rules, or who shall refuse or neglect to correct his work after notice, of any irregular work, within a reasonable time, will be subject:

To such charge as shall, in the judgment of the Water Company, reimburse it for the expense caused by such failure or neglect; or

To suspension for a period not exceeding thirty days, during which time no permits will be issued to said plumber, or

To revocation of license.

Extracts from Ordinances of the City of Indianapolis. The References are to Section Numbers in the Revision of 1904.

An Ordinance Prohibiting Sprinkling During Time of Fires

(Approved April 13, 1874.)

Sec. 1. Be it ordained by the Common Council of the City of Indianapolis: That it shall be unlawful for any person or persons to open any public hydrant, fire hose, or yard sprinkler, or turn any public stopcock in any way or manner injure or interfere with any water meter, or other apparatus belonging to the City of Indianapolis from the time an alarm of fire is first given by the fire bells until the signal of "fire quit" is given by the Fire Department, excepting under the order of the Chief Fire Engineer, or by order from the Board of the Water Works Company.

Sec. 2. Any person violating the provisions of this ordinance shall, upon conviction thereof, be fined in any sum not exceeding one hundred dollars.

An Ordinance to Protect the Fire Hydrants of the City of Indianapolis

(Approved February 22, 1878.)

Sec. 1. No person or persons (other than the men of the Fire Department of said city, for the use and purposes of said department; and those authorized by the Common Council and Board of Aldermen, or an officer of the city, for public uses; or those authorized by the Water Works Company) shall open any said hydrant, or attempt to draw water from any said hydrant, or use any water drawn from the same, in any manner interfering with or injure any of said hydrants. Any person guilty of a violation of any of the provisions of this section shall, upon conviction, be fined in any sum not less than ten nor more than fifty cents for each and every offense, together with all damages and costs.

Sec. 2. Sprinkling Hydrants and Fountains.—Polluting Water. Any person or persons who shall wilfully or carelessly pollute or destroy any of the public hydrants connected with said city for the supply of the citizens with water for fire protection, or the public drinking fountain of said city, constructed by the Common Council and Board of Aldermen; or shall pollute or unnecessarily waste

the water at any of said hydrants or drinking fountains, shall, upon conviction, be fined in any sum not exceeding one hundred dollars for each and every offense, together with all damages and costs.

Sec. 3. Excavating Near Hydrant. It shall be unlawful for any person or persons to excavate for, or in connection with, any building, a vault under any sidewalk in said city where there is a fire hydrant, unless he shall, at the time of such excavation, protect said fire hydrant from frost, or any other injury, in the manner prescribed or required by the superintendent of the Water Works Company of Indianapolis, and to his satisfaction. Any person violating any of the provisions of this section shall be fined in any sum not exceeding fifty dollars.

General Ordinance No. 73

(Approved November 23, 1884.)

An ordinance prohibiting the change, alteration or extension of service and other pipes connecting with the mains of the Indianapolis Water Company without the consent of said Company; also prohibiting the furnishing or using of water by persons not entitled to the same, of water furnished by said Company; and to prevent the reopening or reconnection of the water supplied by said Company, where the same has been discontinued, without the consent of said Company, and fixing a penalty for its violation, etc.

Sec. 1. Be it ordained by the Common Council and Board of Aldermen of the City of Indianapolis: That it is hereby declared to be unlawful for any person to in any manner whatever, change, extend or alter any service or other pipe of any kind, used in any residence, business block, public or private place, connecting with the water mains of the Indianapolis Water Company, so as to in any wise increase or lessen the supply of water furnished by said Company without first procuring from said Company written permission to make such change, extension or alteration.

Sec. 2. It is hereby declared to be unlawful for the owner, tenant, occupant, or any other person, in any building or place whatever, where water is supplied by the Indianapolis Water Company, to furnish or permit to be taken or used by any person who is not entitled to the use of such water, the water furnished by the Indianapolis Water Company, and that no person shall be entitled to the use of such water who is not an occupant of a place or premises that is regularly furnished with water supply under contract with said Company; and further: that it is hereby declared to be unlawful for any person or persons to take and use, or cause or permit the same to be taken and used for his or their benefit, or for the use or benefit of his or their families, the water furnished by the Indianapolis Water Company, unless such person or persons are the tenants or occupants of

SCHEDULE OF WATER RATES

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premises supplied with water under contract with said Company.

4030. Sec. 3. That it is hereby declared to be unlawful for any person to reconnect or reopen the pipes supplying the water furnished by the Indianapolis Water Company, in any case whatever, where such supply of water has been discontinued, without first procuring from said Company written permission to make such reconnection or reopening. Nothing in this ordinance shall be construed to conflict with General Ordinance No. 74, 1854.

4031. Sec. 4. Any person violating any provision of this ordinance shall, upon conviction, be fined in any sum not less than five dollars nor more than one hundred dollars for each offense.

Building Ordinances

Part of Section No. 885: "Every dwelling house, hotel apartment house, tenement or business house, factory, store or other building in which plumbing arrangements are to be placed, shall be connected with the city sewer when such sewer is accessible, and when such sewer is not accessible with a cess-pool in a location to be approved by the Inspector of Plumbing. • • • No privy, or cess-pool shall be connected with the sewer or house drain.

Part of Section No. 887: "Every sink, bath tub, basin, water closet, urinal, washing or set of wash trays, and every fixture having a waste pipe shall be separately and independently trapped with an approved anti-siphon water sealing trap, placed as near the fixture as practicable."

Part of Section No. 892: "No person shall place in any building a plunger or pan water closet."

No. 2955. DRAIN PIPES. 6. "It shall be unlawful for any person in possession of premises into which a pipe or other connection with the public sewers and drains has been laid, for the purpose of carrying off animal refuse from water-closets, slops from kitchens, or for other purposes, to allow the same to remain without good and perfect fixture so attached as to allow a sufficiency of water to be applied as properly to carry off such matter, and keep the same unobstructed. Each day the same are permitted to remain without such fixture for supplying said water shall be deemed a distinct and separate offense. Any person violating any of the provisions of this ordinance shall, upon conviction before the Mayor (Police Judge), be fined not exceeding one hundred dollars for each and every offense.

No. 2962. PERMIT TO DRAIN IN SEWER. 12. "No person shall drain into any sewer or drain the contents of any cess-pool or privy vault, unless express permission is granted by the Common Council who shall charge for the privilege thus granted any sum not exceeding one hundred dollars per annum. Any person violating the provisions of this section shall, upon conviction before Mayor (Police Judge), be fined in any sum not exceeding one hundred dollars."

2. Valuation—Canal—Title.

The Commission being an administrative body has no power to determine any question as to the title to a canal used in water service.

3. Valuation—Non-operative Property.

The value of property not used or useful in the service of the public should not be included in fixing a value for a rate base.

4. Valuation—Appraisals—Structural Overheads.

Structural overheads in an estimated appraisal are a part of the physical property and are not intangible values.

5. Valuation—Intangible Values.

When intangible values are known to exist, the Commission has no discretion about whether they shall be allowed as a part of the value of a utility, but must ascertain such value.

6. Valuation—Going Value—Working Capital—Water Rights.

The Commission found that an allowance of \$980,000 should be made for going value, working capital and water rights in fixing a value for rate making purposes of the property of the Indianapolis Water Company.

[fol. 28] 7. Valuation—Statutes.

The Indiana Law permits a revaluation at any time, and the question of valuation is never closed for the reason that changing conditions must be considered.

8. Valuation—Elements to be Considered.

Many elements must be considered in fixing the fair value of the property of a public utility.

9. Valuation—Determination for the Future.

The constant change of values of property makes a final determination for the future impossible.

10. Valuation—Finding.

The Commission placed a value of \$15,260,400 on the property of the Indianapolis Water Company for rate making purposes as of May 31, 1923.

11. Water—Fire Protection—Allocation.

The Commission found that between 25 per cent and 30 per cent of the value of the entire property of the Indianapolis Water Company and the cost of operation should be charged to fire protection.

12. Water—Rate of Return.

The Commission found that a rate of return of 7 per cent is a reasonable rate of return upon the fair value of the used and useful property of the Indianapolis Water Company.

13. Water—Rates—Proposed Schedule Denied.

The Commission found the schedule of rates proposed by the Indianapolis Water Company to be exorbitant and discriminatory and refused to approve same.

14. Water—Rates—Increase Authorized.

The Commission authorized a new schedule of rates for the Indianapolis Water Company, estimated to yield a return of seven per cent upon the fair value of its property over a period of three years.

[fol. 29] 15. Water—Preferential Rates—Free Service.

The Indianapolis Water Company was ordered to discontinue all special contracts and preferential rates and to discontinue all free service.

16. Water—Meterization.

The Indianapolis Water Company was directed to proceed to meter its customers, to the end that as full a metered basis as practical be obtained as soon as possible.

17. Water—Depreciation.

The Indianapolis Water Company was ordered to provide for depreciation not in excess of 1.25 per cent per annum of the cost of the depreciable property.

Appearances:

For petitioner, Albert Baker, Fred Bates Johnson, of Indianapolis, and W. A. Melnery, of South Bend, Attorneys, and Harry S. Schutt, Vice President;

For the City of Indianapolis, Taylor E. Groninger, Corporation Counsel;

For the Indianapolis Chamber of Commerce, William A. Pickens, Attorney;

For the Central Labor Unions, John F. Geckler;

For fifteen civic organizations of the City of Indianapolis, Clarence E. Weir, Summer Clancy and Edward O. Snethen.

RATTS, Commissioner:

On June 8, 1923, the Indianapolis Water Company filed with the Commission its petition, showing:

That it is an Indiana corporation; that its place of business is the city of Indianapolis, and that it is a public utility engaged in the business of distributing water for municipal and domestic purposes; that the law requires a utility to collect no greater compensation for service than the charge fixed by it on the lowest schedule of rates in effect, and that the rates, tolls and charges in effect in said city for water, fixed by Order No. 5798, approved March 21, 1921, are on file with the Commission; that the property of the said utility was valued on January 2, 1923, by the Commission at \$16,455,000, both tangible and intangible, and that the betterments to the property authorized to be constructed during this year will ap-

proximate \$750,000, bringing the valuation of petitioner's property to about \$17,250,000.

The petition further alleges that the rates, tolls and charges authorized by the Commission are insufficient and inadequate to realize upon the volume of business of petitioner, and in excess of operating costs and taxes a sum sufficient to pay a reasonable rate of return upon the fair value of its property; that for the year 1922 and for several years prior thereto the gross income of this property has amounted to approximately five per cent upon the value of petitioner's property as found by the Commission on January 2, 1923, aforesaid, being in Cause No. 6,613; that during the year 1922 and since the year 1916 it has been allowed to set aside annually for depreciation reserve purposes a sum equal to eight-tenths of one per cent of its property, and that the amount set aside in 1922 was \$87,000, and that a reasonable sum required to be set aside for replacement reserve purposes is not less than \$150,000, and that the net income of this petitioner for the year 1922 was about \$846,000, and if the reasonable sum of \$150,000 had been set aside for depreciation reserve purposes, the gross income of this company would have been less than 4½ per cent of the fair value of its property; that the valuation of its property for taxation purposes has been materially increased for the year 1923, the increase amounting to something in excess of \$40,000 in taxes to be paid, which it is alleged will wipe out more than half of any increase in net earnings due to an increased volume of business in this year, and that the balance of such increased net, will not be sufficient to meet fixed charges upon the investment for extensions and betterments for 1923.

The petition further represents that an exhaustive study of the present and future water requirements of the city by competent and experienced engineers has been made by the utility; that the petitioner is advised and believes that to care for the water necessities of the city for the next fifteen years and to protect the city in its fire protection service, an investment in procuring additional water supply, filtration and pumping capacity, feed mains and additional distribution system will be required in an amount of approximately \$8,000,000 if the water service of petitioner is put upon a metered basis, and an amount exceeding \$10,000,000, if the present flat rate system of charging for water service be continued; that approximately \$1,500,000 of said expenditures must be made within the next three to five years and that approximately \$3,000,000 of said program of expenditures will add no immediate increase in the volume of business or revenue, but are required to strengthen service conditions and [fol. 31] to maintain a proper standard of water service for fire protection purposes; that by reason of a large amount of non-revenue-producing construction work and the increase in annual fixed charges and taxes resulting from such additional investment, the revenues of petitioner under the schedule of rates now in effect will produce an even lower net income than has been visited upon the company in the immediate past under said rates, and that the limited earnings of this petitioner make it impossible for the petitioner to finance the large investment herein recited without an increase in its water rates; that the expenditures as petitioner proposes to make in

carrying out the recommendations of its engineers are essential to continue good service, and to petitioner's ability to care for the continuous growth of the city of Indianapolis, that petitioner's continued operation under the low water rates now in effect will result in an impaired credit and inability to meet the reasonable requirements of the city and its people and will ultimately result in weakened and impaired service.

The prayer of the petition is for a hearing and that after due investigation the Commission authorize the petitioner to put into effect a schedule of rates, tolls and charges which will produce revenues sufficient to meet operating expenses, taxes, and a reasonable sum, annually, for depreciation or replacement reserve, and a net income which will amount to a reasonable return on petitioner's property used and useful in its said service.

On July 14, 1923, the petitioner filed with this Commission its amended petition, which contains the same allegations as does the original petition, and in addition thereto states that it has attached a proposed schedule of rates, tolls and charges for water service in said city of Indianapolis, which said proposed schedule will, in the judgment of the petitioner, produce a net income equal to a reasonable rate of return upon the fair value of its property used and useful in said water service in said city.

The prayer of the amended petition is that a hearing be had on the subject matter of the amended petition, and that after due investigation the Commission authorize and direct the petitioner to put into effect said proposed schedule of rates or such other rates as in the judgment of the Commission will properly distribute the cost of said water service, and in addition thereto will accrue a net income representing a reasonable rate of return upon the fair value of petitioner's said used and useful property.

Attached to the amended petition as an exhibit is a proposed schedule of rates, which contains certain rules and an itemized [fol. 32] proposed schedule of flat rates which is approximately 23.7 per cent higher than the schedule of rates of said company in effect, with a few exceptions, the principal of which is the use of water for building and concrete work, and which schedule contains a provision that all municipal service should be paid for at meter rates, and contains the following proposed schedule of meter rates; which proposed meter rate schedule is also a very material increase over the schedules in effect.

Meter Service

	Rate per 100 cubic feet
For the first 1,000 cubic feet used monthly	\$.20
For the next 2,000 cubic feet used monthly .....	.19
For the next 3,000 cubic feet used monthly .....	.17
For the next 6,000 cubic feet used monthly .....	.16
For the next 54,600 cubic feet used monthly .....	.10
For the next 66,700 cubic feet used monthly .....	.08
For all over 133,300 cubic feet used monthly .....	.06

No demand or standing ready to serve charge will be made for meters where monthly use exceeds the following quantities:

For $\frac{3}{8}$ " Meter	875 cubic feet
For $\frac{3}{4}$ " Meter	1,789 cubic feet
For 1" Meter	2,842 cubic feet
For $1\frac{1}{2}$ " Meter	4,588 cubic feet
For 2" Meter	7,312 cubic feet
For 3" Meter	15,500 cubic feet
For 4" Meter	27,500 cubic feet
For 6" Meter	51,500 cubic feet

For monthly use of less than above quantities the total charge, including demand and water used, is as follows:

For $\frac{3}{8}$ " Meter	\$1.75
For $\frac{3}{4}$ " Meter	3.50
For 1" Meter	5.50
For $1\frac{1}{2}$ " Meter	8.50
For 2" Meter	13.00
For 3" Meter	24.00
For 4" Meter	35.00
For 6" Meter	60.00

[Vol. 33] After due notice, a hearing was held in the chamber of the House of Representatives beginning July 18, 1923, and was continued on July 19, 20, 23, 24, 25, 26, 27 and 31 and August 1 and 2, during which time voluminous evidence was received and at the end of which, by agreement, September 27, 1923, was fixed for hearing oral argument, which oral argument consumed three days time.

On July 18, 1923, answers were filed by respondents, as follows:

The City of Indianapolis, through its Corporation Counsel, filed an answer which denies the material allegations of the amended petition and objects to any increase of rates, giving reasons as follows:

(1) That present rates are sufficient to pay operating expenses, taxes, depreciation, and provide for a reasonable rate of returns on the fair value of the used and useful property of the petitioner;

(2) That petitioner is in excellent financial condition and has been since its incorporation in 1881;

(3) That there is no emergency connected with the matter as the condition of the property and standard of service are excellent and that the petitioner has at all times, as now equipped, a minimum availability of water sufficient to take care of all present needs and for considerable time in the future, that its credit is good and its business is large and profitable and its future is promising, and its bonding margin is such as to enable it to take care of its growth and expansion along with the growth of the city;

(4) That any additional charge for service would be unreasonable and an unwarranted burden on the City and the citizens of Indianapolis;

(5) That the value of petitioner's property as found in Order No. 6613 of the Commission on January 2, 1923, is at least \$6,000,000 higher than the present fair value of the used and useful property of petitioner.

(6) That the appraisal of the Commission's Engineering Staff, adopted by the Commission in Order No. 6613, based solely upon the average level of prices for the ten-year period ending December 31, 1921, and that the adoption of said appraisal as a sole basis of value of the property is erroneous and violative of fundamental principles and laws of public utility evaluation for rate making purposes;

[fol. 34] The answer closes with the conclusive statement that experience has shown that water rates are already adequate and should not be increased.

The Indianapolis Chamber of Commerce, by Pickens, Cox, Conder and Bain, through William A. Pickens, filed brief formal objections to any increase in valuation or rates, and demanding a reduction as to each.

An answer was filed by ten citizens of the City, saying that they are patrons of the petitioner, that petitioner's valuation fixed in Order No. 6613 was not made for the purpose of fixing rates and is wholly immaterial in this cause as to what the valuation fixed in that cause is; that it is immaterial what the percentage of gross income of the company amounted to upon the whole value of its said property as fixed and determined by the Commission in said order No. 6613 on January 2, 1923, including used and non-used property, and they also say it is immaterial what the relations between the revenues and taxes may be. They further say that the future requirements of the city can not be made the basis of an increase of water rates against the present rate bearers, and that it is the duty of petitioner to provide the facilities for future water requirements, and that the company will not be entitled to a rate increase on account thereof until such requirements have been installed, and that is not the duty of the rate payers to finance the petitioner's disbursements but is the duty of the petitioner to provide the same in such manner as it may see fit, either by borrowing funds or increasing its capital stock and selling the same on the market. The prayer of this answer is that the petition be denied and that proper relief be had, either by reducing existing rates or in such way as the Commission may deem proper. This answer by said ten citizens being filed by attorneys John F. Geckler, Clarence E. Weir, O. E. Snethen and Sumner Chaney, of counsel.

The basic question for determination by the Commission in this investigation is the fair value of petitioner's property "used and useful for the convenience of the public." Other studies which must be made by the Commission include that of the petitioner's income account, the fair and equitable distribution of the burden of the water

service in the city of Indianapolis, whether a more general meterization of service should be brought about, and the reasonable return to the company under existing conditions on the value found by the Commission.

[fol. 35]

Tax Valuation

The contention that because certain intangible values are not listed for taxation would authorize this Commission to disregard such values, is untenable. The fact that the officers of the corporation make false statements in listing the property for taxation, either by oversight or with fraudulent intent, whether as to tangible or intangible property, does not destroy or confiscate the property nor authorize the state to do so. They may be sent to jail but their property can not be taken under the laws of our land. The law which creates this Commission and prescribes its duties mentions assessed valuation as one thing to be considered, but does not make it the sole consideration and such a position on the part of this Commission would be unreasonable and unlawful. If not, there would be little need for this Commission, as the State Board of Tax Commissioners could do our work, but that is not the situation as the law requires us to function and to show sufficient courage to do our duty, however difficult or displeasing it may be, to comply with our oath of office and to obey the law.

The Canal

By means of an open canal, the water is taken from the river at Broad Ripple and transported, by gravity, to the filter beds and then a part of it goes to the pumping station at Riverside and then to the hydraulic station at West Washington Street, to be forced into the mains, and the water not taken from the canal to the filter beds furnishes the water power to operate the turbines pumping water into the mains at said hydraulic station. This shows the work of a competent construction engineer.

It is contended by respondents that the company does not have a fee simple title to a part of the canal. This is a judicial question which this Commission does not have the power to determine, being an administrative body and not a judicial body. The evidence offered does not seem to substantiate this contention, if we had the power to determine the question, but we can not adjudicate legal rights between private parties. However that might be, there is no dispute that the entire canal is in the possession of the company which is exercising all the rights of ownership and has been doing so for many years and it is difficult to see how the rights of the consumers are affected by this question so long as they are receiving the benefit of the use of the entire canal in this service. The question raised makes no difference in the value of the service at this time, considering the fact that under the state of the record we must presume that the company has the legal title because it has a paper title and has exercised the right of ownership so long that there may be a [fol. 36] legal question as to whether they could be divested if they

had had no title in the first place, but we will not go into these legal questions but will act on the presumption, as the law requires.

The respondents presented some evidence by Mr. Walter S. Bemis, an engineer, for the purpose of presenting the question as to whether that part of the canal south of the filter beds should receive consideration as having a value in excess of that which would be shown by the value of the service in turning the turbines at the hydraulic station on West Washington Street or the value of some additional machinery and equipment at the pumping station to do the work done by this hydraulic station. The evidence shows the revenue to the petitioner for rentals for the use of water for condensing and manufacturing purposes from this part of the canal is approximately \$30,000 per year. It is suggested that because of the fact that the canal was built for navigation and hydraulic purposes by the State, that it may be necessary to continue some hydraulic use of the canal as there might be danger of the title reverting if no navigation or hydraulic uses were made of the canal whatever. This, too, is a judicial question and comes under the same legal presumption as the other question of title raised by the respondents, this latter contention being raised by the petitioner. It is also suggested that the hydraulic station would be valuable to the City in case of a general coal famine and would provide a limited supply of water during the emergency and without fuel, as the water would be filtered and taken to the hydraulic station to be forced into the mains and the other water turning the turbines all moving by gravity. The question of valuation of that part of the canal below the filter beds and discussed by Mr. Walter S. Bemis has been taken into consideration in the determination of the fair value of petitioner's property used and useful, and the Commission has fixed a valuation on the canal which is a smaller sum than that which would have been fixed if all of the water in the canal had necessarily traveled the entire course of the canal, and taking into consideration all of the evidence offered and all of the facts known to the Commission the value of the canal has been fixed with all of these facts in mind and the Commission finds that no part of the canal can be destroyed for the purposes of the proceeding by the processes of the respondents above set out, but that it is the duty of the Commission to give weight to all of these facts and conditions in fixing the value of the canal, and that, the Commission has done.

There was some evidence that the banks of the canal are used for a dumping ground for old cans and other filth and that filthy shacks are near the canal and so forth, and a careful investigation has been [fol. 37] made and it is deemed to be due the people who use the water to know that any such evidence applies to that part of the canal below the point where the water is taken for the city, and if it creates any unsanitary condition at any time, that is a matter to be handled by the department of health in the City Government and is an immaterial matter so far as this proceeding is concerned.

Non-operative Property

Under this subject is classed such property as is not used and useful in serving the public. This class of property is properly included in an appraisal for purchase and sale or as a basis for the issuance of securities, but it is not properly included in a valuation for rate making purposes; in other words, the value of this class of property must be deducted from the total value of the property of a utility to arrive at the correct amount to be made the basis for the rates to be charged.

There was much testimony upon this subject, largely by Mr. Carter, chief of the engineering staff of the Commission, and Mr. Metcalf, the engineer for the petitioner. The evidence showed that the petitioner owns certain lands which are not used and useful in serving the public and that the office site is of greater value than should be charged against the consumers and that the value of the canal is more than can reasonably be charged to them as a part of the rate base, and the evidence showed certain other properties to be included within this class.

There is some contention that all of the property belonging to the petitioner and not occupied by a small space around each of the wells and the pipe lines leading to such wells should be deducted as non-operative property, but the Commission finds that the position taken by this Commission in Order No. 1400 is not unreasonable, and while the Commission does not feel that the entire value of all of these lands should be included, it finds that it would not be advisable to dispose of all of these lands. It is clear that the holding of these lands provides territory for other wells which will be needed in the future as well as sanitary conditions about the wells which now exist. The evidence shows that considerable revenue is derived from these lands, some of which are used in farming, some for warehouses, mills and other property, and if the entire value of this property was removed from the valuation herein fixed, the income therefrom would have to be deducted from the revenues of the petitioner, and these facts have all been given due consideration in arriving at the valuation herein found.

[fol. 38]

Structural Overheads

There is nothing so mysterious in the use of these estimated general costs, which would be necessary in the hypothetical construction, at the time, of a new plant, a duplicate of the property under consideration, to be used as one of many aids to the Commission in exercising the mental process known as judgment. Such estimates are a part of all such appraisals of such imaginary structures and as such are justified by our common sense knowledge that in such a construction such expenses, in some amount, would necessarily be incurred, but no one who knows his subject contends that this is an intangible asset to be added to the value of the physical property. The difficulty is that the meanings of the estimated appraisement and the value as found is confused in the mind. Such costs,

in connection with construction, are as much a part of the physical property as are labor and supplies. These estimated overheads are a part of estimated appraisals but, as such, are no part of a valuation. The value of such expenses as have been made in any construction constitute a part of the value of the whole physical property, but it requires little thinking to know that such estimated "overheads" in my supposed construction, at the time, are not taken as the value of such expenditures as were made for "overheads" in the construction of any plant heretofore constructed and on which a value is being found. Such estimated appraisals, and the various parts thereof, are not accepted as true values but are received, for whatever they may be worth, as an aid during the necessary judicial determination of the mind when finding a value, and nothing more. It is elementary that they are not taken as nor added to values, when once fixed, but there can be no question that, under the law at this time, they must be considered in arriving at a value. In the *Monroe Gas Light and Fuel Company* case, *supra*, the court in referring to the finding of the Commission that actual overhead costs had not been established by the records, said:

"We can see no escape from the conclusion that the action of the Commission in this respect was arbitrary. Such overheads as were involved, viz., interest and taxes during construction, contractor's profits, and items which all the witnesses classify as 'undistributed costs' are as much a part of the fair value of the plant, considered on any basis, as are the iron and the bricks."

This does not mean that these costs are added to the value of the property or to the value of the labor, but they are essentially a part of every property.

[fol. 39] Engineers contend experience teaches that a certain per cent overhead on all items of the inventory would approximate an amount near to the amount which would be required for expenditures, if such imaginary construction were made at the time of the estimate, and that while this applied percentage would be higher, on certain portions of the property, such as lands, it would be correspondingly lower than would be required on other portions of the property, and that by averaging the various amounts the percentage which may be used on the entire value of the necessary labor and materials to approach closely the actual amount which would be required, if such construction were undertaken, may be ascertained, and that for practical purposes this flat or horizontal percentage is approximately correct in results for use in such estimated costs in such estimated appraisals.

The weight to be given to evidence of this nature must be determined by the facts surrounding every situation considered, and having this in mind the Commission, in weighing the appraisals of the engineers who testified, has observed that an unusually large portion of the value of petitioner's property is contained in land values and for that reason due allowance was made for the fact that overheads on lands are a smaller percentage of the bare physical value thereof than the overheads on other classes of property used in

utility service, and that fact was fully considered in weighing the value of the estimated reproduction appraisals of the engineers, as evidence herein. The Commission also had in mind that the engineers included in their appraisals the estimated costs of assembling the lands, which does not comply with the law as laid down in the well known Minnesota Rate Case decision. The Commission also had in mind, along with other details of these appraisals, that an amount was included in each of them for flooding lands above the Broad Ripple dam and that it is probable that nothing was actually paid for such damages. In fact, every detail in such appraisals was fully considered in the process of arriving at the weight to be given to these appraisals, as evidence.

[fol. 40] Going Value, Water Rights, and Working Capital

Going value is that value which attaches to every well organized utility operating efficiently so that a profit may be realized with reasonable rates, and it is the difference between the value of the bare physical property and the fair value of the property in operation. In Section 9 of the Public Service Commission Act, we find this language:

"As one of the elements in such valuation the Commission shall give weight to the reasonable cost of bringing the property to its then state of efficiency."

and Section 31 of the same Act reads as follows:

"The Commission shall also publish in its annual reports the value of all the property actually used and useful for the convenience of the public, and the value of the physical property actually used and useful for the convenience of the public, of every public utility the value of whose property has been ascertained by it under Sections 9 to 11."

These quotations clearly show that the Legislature recognized an intangible value separate and apart from the value of the physical property. The intangible property in this case is going value and water rights. This subject is discussed at considerable length with citation of authorities in Cause No. 1400 referred to above. Numerous courts have discussed this subject since Order No. 1400 was issued, but further citation of authorities is deemed unnecessary as such a value attaching to such a utility as the one under consideration is generally accepted, as it is admitted by all parties that this utility functions efficiently and renders good service and is a profitable institution. That being true, this intangible value must be recognized, and the only question is what is a fair allowance therefor.

The subject of water rights is also discussed at considerable length with citation of authorities in Order No. 1400 above referred to. The Commission in that case, in its discussion of this subject, said:

"The company has valuable water rights along both Fall Creek and White River. It is also a riparian owner. The staff reports

water rights of the value of \$30,000 but includes them as a part of [fol. 41] the value of the real estate. The company insists that there are water rights of the fair and reasonable value of \$100,000, over and above its real estate; that the water rights are used by the company, and are a kind of property that cannot be overlooked in a just valuation for rate making purposes, is clearly settled by the highest court of the land. The citation above referred to includes discussion upon the matter. There is nothing to do but to make such an allowance as is just and reasonable. To fix the value of water rights is not more uncertain or indefinite than to fix any other items of value. These rights are not even intangible and they are real, permanent and both used and useful."

No allowance was made for water rights in said Order No. 1400, but the quotation clearly shows that the Commission recognized the existence thereof but for some reason of its own failed to give the company the benefit thereof in making up the rate base.

It is argued that since the water company did not create the natural supply nor build the city of Indianapolis, but simply profited by natural conditions, that it is questionable whether these, in fairness, can be capitalized by this company, and if so whether there should not be an equitable division of these valuable assets between the company and the consumers. The following questions may arise in one's mind:

Should the petitioner, alone, be allowed to benefit by the water supply provided by nature long before any city was located here and still longer before any water company had been dreamed of?

Is it fair and just to authorize this utility to appropriate these advantages, exclusively?

Did the property in these belong, primarily and originally, to the utility or to the public?

Is that the equitable thing to do when this company is practically protected against any competition both by the natural conditions and also by state regulation provided for in the very law under which this Commission has jurisdiction of the subject matter of this proceeding?

What is a "Fair Value" for the purpose of a proceeding such as this?

[fol. 42] Is it not the right, reasonable, equitable value under all the circumstances and conditions surrounding each particular proceeding?

This allowance should not be too large. That is the reason why value cannot be arrived at by calculation. That is why the courts are not able to lay down any definite, fixed general rule which can be applied to all cases. "Fair value" can be ascertained in such cases as this, by the exercise of good common sense tempered with a spirit of fairness for all parties concerned, which is sometimes denominated as judgment. This judgment is not so elusive and mysterious a thing as we might be led to believe, but it is a reasonable, sensible conclusion which may be readily reached by competent minds when all facts, conditions and relations have been fully and completely

considered from every angle and in every detail, which can be accomplished only by the fullest opportunity for and the greatest effect toward the comprehension of all relative facts and their true relation to each other.

The going value of a utility property rests upon exactly the same principle as going value in private properties, in that it may become more valuable by reason of an advantageous location, and no one contends that we have a right to take away such additional value which comes to such property by reason of the owner selecting a good location where he can have natural advantages and where a city may build up around him, but this is a legitimate appreciation of property which can not be the object of attack or envy, whether it be public or private property. A favorable location increases the value of a hotel site or mercantile establishment, and the building up and growing of a utility increases the business in either case, but no one can be heard to complain because the owners are more fortunate than are those who contend that he should not be permitted to enjoy the increase in the value of his property. While it may be said that the utility could not exist without the public, it may be just as fairly said that the public could not have modern conveniences without a utility and it is purely a business relation except that because of the nature of the utility business a practical monopoly may be secured and for that reason it is brought under state regulation so that it may not levy extortionate and unreasonable prices such as is possible except for competition in other lines of business, and it is also the theory of the law that the utility shall not be permitted to suffer such losses as impair its service or deprive the community of the convenience which it furnishes.

[fol. 43] Some facts may be assumed upon the ground that they necessarily are by the nature of things, and reason points to them, but while certain intangible values are recognized by courts and commission, it is not presumed that one go gunning for products of the imagination and that all such imaginary values shall be charged to the consumers in a rate case. It is only when such assumptions are reasonable and in line with good common sense that they may be so recognized.

However, when intangible values are known to exist, the Commission has no discretion about whether they shall be allowed and the only duty of the Commission is to fix the amount of such intangible values which it is fair in the particular case under consideration to allow as a part of the basis for making rates, but the Commission has no power to disallow values which are recognized by the law.

Since a part of the service is rendered through meters and paid for after the service has been rendered, and since a very small portion of the flat rate service is paid within the first fifteen days of each quarter, and because of other conditions, the Commission is of the opinion that a reasonable allowance, consistent with the facts and conditions involved, should be made for working capital.

There can be no doubt that a value attaches to the right of the company to divert water from White River and Fall Creek because if such right did not exist and an attempt was made to acquire it,

it would be liable for any damages to industries below the intake. The conditions above described affect the amount which should be allowed, considering all facts and conditions, for going value, working capital and water rights, and the Commission finds upon complete investigation and deliberation that for the purposes of this investigation not less than \$980,000.00 is a reasonable allowance for going value, water rights and working capital, and that amount will be allowed as a part of the rate base, it being the theory of the Commission that a larger amount is justified as a part of a basis for the issuance of securities.

The amount herein allowed for intangibles is a smaller percentage of the value of the physical property, than is usually allowed in such cases, but the Commission finds that under all the circumstances and conditions surrounding this utility, the allowance is reasonable.

[fol. 44]

Valuation

On January 2, 1923, this Commission issued an order in Cause No. 6613, finding the value of petitioner's property to be \$16,155,000, as the result of an investigation which arose upon a petition by the petitioner herein, asking for a valuation of its properties, indicating that such valuation was desired in connection with its program for refinancing a certain issue of bonds soon to mature, but no effort was made by the Commission at the time of issuing said order to find the valuation of the used and useful property of the Company to be used as a rate base, for the reason that the question of rates was not involved in that proceeding.

On March 15, 1917, in Order No. 1400, this Commission made a valuation of petitioner's property based largely upon a study of the historical cost with allowance for appreciation of land values, finding in said last mentioned order that petitioner's property was worth not less than \$9,500,000 for rate making purposes. The value of the physical properties as found in Order No. 6613 approximated a present value figure on the "reproduction cost less depreciation" method, using ten-year average figures ending 1921, the Commission causing to be checked, verified and corrected an inventory of the physical properties, the time given by the Engineering Staff of the Commission being about six months consumed in developing said inventory and pricing the same upon a ten-year average basis, a five-year average basis and spot prices as of October, 1922. Similar appraisals on the reproduction method were presented by the petitioner through the engineering firms of Hagenah & Erickson and Sanderson & Porter, by Cecil F. Elmes, there being before the Commission at that time practically all of the important exhibits presented to the Commission on the investment cost theory in Order No. 1400.

At the time of the hearing in the investigation now before the Commission, there was offered in evidence the order, dissenting opinion, transcript and many of the important exhibits in Cause No. 1400, also the order, transcript and all exhibits in Cause No. 6613. Most of the evidence bearing upon valuation was based upon the ex-

hibits and evidence of the two earlier valuation cases, and would be unintelligible except by reference to the records and exhibits in Causes Nos. 1400 and 6613. The law of Indiana permits a revaluation by the Commission at any time, and the Commission does not understand that the question of valuation is ever closed or brought to an end by any action or order of the Commission, for the reason that condition are such that this question varies continually, so that under our law the question cannot be adjudicated finally because the nature of the property and its relations to the public are continuing and must be under continuous administration or supervision, taking into account all facts, conditions and relations at all times, and the orders of this Commission are more or less interlocutory in their nature, and binding until further order of the Commission. This is one of the principles of regulation under which the Commission works, because if a fixed status could be brought about in regulation, it could be done by acts of the Legislature and there would be no occasion for the exercise of supervisory discretion from time to time. It is the theory of the law that this Commission should not be restricted in its administration by technical, formal procedure or by its own orders, but that its administration be uninterrupted so long as it complies with the law embodied in the constitution of the United States, the constitution of the State and the statutes of the State as construed by the courts. The records of preceding investigations were received in evidence, not for the purpose of binding the Commission but merely for reference such use as the Commission makes of any of its own records, looking to the fullest possible information upon the subject of the investigation in hand and concerning which the Commission must determine the facts. The Commission not only has the power but it is its duty to avail itself of all information which it may have from any source, whether from its general investigations or other specific inquiries, and there is no cause for complaint so long as the parties interested are advised as to the kind of information and the manner of procuring the same, which the Commission will consider, so that opportunity is provided for explanation or rebuttal of any such evidence as may be material. See *State Ex. Rel. City of Seattle vs. Public Service Commission et al* P. U. R. 1919-E, p. 89; also *Re: Brooklyn Borough Gas Company*, P. U. R. 1919-A, P. 377.

Throughout the year 1922 in all valuation cases before this Commission, and in Cause No. 6613, valuations of physical property approximated the results of applying the ten-year average cost for the last preceding and completed ten years, depreciated to present condition. No radical departure from the general manner of handling cases at the time was made in said cause, but it was placed upon practically the same grounds as other valuation investigations conducted during the preceding year. The Commission had in mind the various elements to be considered as laid down in the case of *Smythe vs. Ames*, and approved in many later decisions of the United States Supreme Court, and had in mind the probable general trend of prices and believed at the time that the ten-year

appraisal made by the Engineering Staff was incidentally approximately the value of the property and would be the value for some time to come. In the investigation being herein conducted by the Commission, the petitioner presented evidence by Mr. Hagensh that a valuation of the date of hearing (July, 1922) using ten-year average figures for the last completed ten years (including 1922), would produce a result from 5 to 8 per cent higher than the [fol. 46] figures reached in Order No. 6613, and petitioner in its argument insisted upon an average increase of 6 per cent over the physical valuation found in said order. It was contended by the respondents in said investigation that the Commission did not give sufficient weight to the investment cost of the property; that the petitioner's property should be depreciated upon the straight line method rather than upon the inspection and sinking fund method used by the Commission's engineering staff, and that no going value allowance should be made in view of alleged excessive earnings of recent years. The evidence on valuation on a reproduction method before the Commission in this case, as presented by the engineering staff and petitioner's witnesses in Cause No. 6613, is as follows:

"Appraisals

"The Engineering Staff of the Commission submitted two itemized appraisals of the physical property explained by Mr. Carter, Chief Engineer. There is also in evidence, as disclosed by Exhibit No. 2, the computation of the staff as to what the appraisal of the physical property would be if certain other bases were used. These additional sums were arrived at in the usual way by the application of certain index figures to all the items in the appraisal except land and materials and supplies, which are the same in each total. All the appraisals of the Engineering Staff are set out below, the first two being the appraisals included in Exhibit No. 1 and the remaining being the totals arrived at by the use of index figures:

	Cost of reproduction	Present value
Appraisal 1911-1920 prices, physical property only	\$14,829,915	\$13,979,744
Appraisal 1911-1920 prices, physical property only, market prices of cast iron pipe.....	15,168,110	14,307,428
Appraisal 1912-1921 prices, physical property only	15,595,318	14,689,078
Appraisal 1912-1921 prices, physical property only	15,957,186	15,039,700
Appraisal 1913-1922 prices, physical property only	16,182,647	15,232,676
Appraisal 1918-1922 prices, physical property only	19,518,608	18,335,974
Appraisal October, 1922, prices, physical property only.....	18,439,551	17,328,249
Appraisal October, 1922, prices, physical property only.....	18,882,424	17,757,352"

[fol. 47] These appraisals are all in evidence in this investigation, and in addition thereto the following appraisals are also in evidence in this cause:

	Cost of reproduction	Present value
Appraisal 1913-1922 adjusted prices, physical property only	\$15,694,170	\$14,774,293
Appraisal May 1, 1923, spot prices, physical property only	20,914,216	19,632,283
Hagenah & Erickson appraisal 1911-1920 prices, physical property only	16,745,861	16,020,456
Hagenah & Erickson appraisal 1917-1921 prices, physical property only	21,523,898	20,535,543
Hagenah & Erickson appraisal October 1, 1922, spot prices, physical property only	20,359,935	19,417,193
Sanderson & Porter appraisal, 1912-1921 prices, physical property only	19,417,193	

Since the adoption of Order No. 6613 in January, 1923, the general trend of commodity and labor prices has been slightly upward and if the Commission were to adhere flatly to average prices of the last ten completed years, there would be some justification in petitioner's claim that the last completed ten years does show a higher result than does the ten-year period ending 1921 as used by the Commission in Order No. 6613. Since the issuance of said Order No. 6613, also, there has been handed down by the Supreme Court of the United States, its decision in the case of the State of Missouri ex rel. Southwestern Bell Telephone Company vs. Missouri Public Service Commission, et al., P. U. R. 1923-C, page 193, and Bluefield W. W. & Imp. Company vs. West Virginia Public Service Commission, P. U. R. 1923-D, Page 11, and Georgia Railway & Power Company vs. Georgia Railway Commission, P. U. R. 1923-D, page 1, also the decision of the Supreme Court of Indiana setting aside an order of this Commission in the Columbus Gas Light Company case, which decision was handed down on June 28th, 1923 (140 N. E. Rep. 538). In addition to authorities justifying the use of a reproduction method of valuation, together with present market value of lands, as set down in Order No. 6613, these recently decided cases must be given proper weight. The Southwestern Bell case and the Bluefield case were reversed by the Supreme Court of the United States because it appeared that the Commission did not give sufficient weight to the greatly enhanced cost of material, labor, supplies, etc. over those prevailing in 1913, 1914 and 1916. In the Southwestern Bell case the court said:

[fol. 48] "It is impossible to ascertain what will amount to a fair return upon properties devoted to public service without giving consideration to the cost of labor, supplies and so forth at the time the investigation is made," and, also, "an honest and intelligent forecast

of probable future values made upon a view of all the relevant circumstances is essential. If the higher important element of present cost is wholly disregarded, such a forecast becomes impossible. Estimates for tomorrow cannot ignore prices of today."

This excerpt was quoted in the Bluefield decision by the United States Supreme Court. While the court did not set aside the finding of the District Court in the Georgia Power case, it emphasized the fact that nothing in the Georgia Power case decision was inconsistent with the holding of the court in the Southwestern Bell case. It is interesting to note that the Georgia Power case and the Bluefield case were handed down by the United States Supreme Court on the same day. These decisions were interpreted by the United States District Court for the Eastern District of Michigan, in which were sitting one Circuit and two District Judges, which decision was handed down on July 3, 1923. In that case the Court said:

"The disposition of this motion is to be determined by the interpretation and effect given to the Southwestern Bell, the Bluefield Water and the Georgia Power cases, recently decided by the Supreme Court. They constitute the last word upon the theory and practice involved in fixing a rate base for public utilities.

"In the end, Mr. Justice Brandeis' forceful dissenting opinion in the Southwestern Bell case may or may not prevail; but, at present, the majority opinion is to be accepted and followed, with all necessary implications from the result which it reaches."

The court then analyzes the Southwestern Bell case and says:

"Particularly when we read the dissenting opinion, we must construe the majority opinion as the minority of the court interpreted it, viz., as holding that where it stands not impeached or attached otherwise than it was in the Southwestern Bell Telephone case, the reproduction cost is the dominating element in the fixing of the rate base; and if a Commission, which leaves it substantially unimpeached, fails to give it that dominating effect, there is an error of law which the court must correct. The opinion in the Bluefield Water case tends to confirm this construction of the Southwestern Bell [fol. 49] case. The rate base made by the Commission was set aside because due regard had not been given to reproduction cost.

"Nor do we find anything inconsistent with this view in the opinion in the Georgia Power case.

"It is plain from its exhaustive report, that the Michigan Commission in this case followed practically in the lines of Mr. Justice Brandeis' dissenting opinion."

This is sufficient answer to any suggestion that the Commission should follow dissenting opinions and defy our courts by dissenting against the law and the courts. This we cannot do, but we must be governed by the law as it is until the law is changed, remembering that the courts have the last word. It is evident that we cannot base valuations upon the cost basis, disregarding entirely the amount which would be required to replace the property, at the time, if no property were there. If there is a lack of evidence on a material

question, it is the duty of this Commission, in its informal investigations, to take such steps as may be required to have the Commission fully advised. This Commission is not a court and cannot wait for needed material information, but must secure the necessary information, advising parties affected of the course to be pursued.

This Commission is bound under the law to give serious consideration and respect to the decisions of its own (Indiana) Supreme Court, the opinions of which become the effective law within the state. At the time the Columbus Gas Light case was tried by the Commission, this Commission along with many other Commissions, believed that a rate base should be arrived at by giving controlling weight to original cost or prudent investment figures. In the Columbus Gas Light case, the figures used by the Engineering Staff and adopted by the Commission were considered ample to reproduce each piece of equipment under the approximate circumstances and conditions during the time these pieces of equipment were purchased and installed. It was not a book investment cost, or an alleged original cost, but the structural physical properties were valued at prices prevailing at the period of installation of the various units. To the figures as found were added 12 per cent structural overheads, and it was a figure reached on this method which was before the court. Our Supreme Court quoted with approval *Wilcox vs. Consolidated Gas Company*, 212 U. S. 19; *Minnesota Rate Cases*, 230 U. S. 352, 454; *Smyth vs. Ames*, 169 U. S. 467, 547; also the *Southwestern Bell* case and the *Bluefield* cases above mentioned.

[fol. 50] The Indiana Supreme Court in the Columbus Gas Light case also specifically finds that the Gas Company was entitled to have the going value considered in fixing a rate base, citing in support thereof, *Des Moines Gas Company vs. Des Moines*, 238, U. S. Page 153, 165.

In view of the authoritative findings of our own Supreme Court based upon the recent decisions of the United States Supreme Court, in which it is specifically found that the prices prevailing at the time of the inquiry are to be given real but not the sole consideration, and it may be noted that the recent valuation order of this Commission was not based upon spot prices as of the time of the inquiry but upon an average of the prices prevailing for the last ten years and it may be stated that in practically accepting the appraisal made by its engineer staff as the value of the property, it did so, after full consideration of all evidences of value at hand, because the judgment of the Commission as to the value of petitioner's property, as a whole, incidentally proved to be practically the same as the total of said appraisal and not because it was erroneously accepted as the sole evidence of value, but whatever may be contended as to that, the Commission is, in this proceeding, concerned only with the finding of the real fair value of petitioner's property, used and useful in serving the public, without regard to whether findings in former investigations may or may not have been correct and properly arrived at by the Commission.

There is much confusion in the minds of many as to the means to be employed in finding a value in a proceeding of this kind, but

it is difficult to understand how any one informed upon the subject can fail to understand that all evidences, including the probable cost of reproducing the property at this time in so far as such costs can be determined from the evidence, also the cost of reproducing it on the basis of average prices that have existed in the past as disclosed by the evidence, the trend of prices in the past and the probable trend in the future, the historical book cost, the prudent investment, the amount of working capital necessary in the conduct of its business, its going value, its operating efficiency, its standard of maintenance, character of service, its present attached business and future prospects, its past, present and probable future earning power, the amount and character of its outstanding obligations, and any and all facts appearing in the evidence and all other matters submitted by the Commission or the parties hereto should be taken into consideration in arriving at the true value of the used and useful property, and are given to the Commission for such consideration as may be helpful. After a detailed, thorough, careful and [fol. 51] painstaking weighing of every fact, circumstance and condition and all combinations thereof, the mental process continues until the finding as to value is arrived at by the exercise of a deliberate, well balanced, matured judgment, and not by means of formulas, rules or mathematical calculations, and when that has been done, as we believe it has in this proceeding, the matter has been determined.

The Commission is indebted to the respondents for evidence of the original cost of the property of the petitioner, as they submitted practically the only evidence upon that subject which was offered for consideration along with other evidences of value. Counsel for respondents stated in argument that they had stressed original cost and the petitioner had stressed reproduction value as of the time of the inquiry, and that there should be found a middle ground somewhere between the two, and that is what the Commission has done, having taken into consideration not only these two evidences but every other evidence of value available and then having formed its judgment as to what is the fair value within the meaning of the law, which is the value fixed by this order as a rate base.

Respondents offered evidence which showed that Order No. 1400 of this Commission was the first order which fixed a valuation of the property of this petitioner, which order was issued in 1917, and they offered much evidence showing what investments have been made in additions and betterments since said order was issued on the theory that that is the correct way to arrive at a value in this investigation, but they have furnished us no law and we know of none which supports that theory of valuation. In fact, it is the understanding of a majority of the Commission that it is the theory of the law that constantly changing conditions make such a manner of valuation impracticable and unreasonable, and for that reason the law has left the matter of valuation open to review at any time and the orders of the Commission, being of such a nature that they deal with the future, are necessarily estimates and not findings of absolute facts. This Commission is not a court and cannot bind itself by its own orders

and if it were so bound efficient administration would be impossible. The constant change of values of property makes a final determination for the future impossible. This contention of respondent's is not supported by the law.

After the most careful consideration of every evidence received in this investigation as hereinabove stated, and having given to every portion of the evidence and to every fact such weight and consideration as the Commission finds it to be entitled to, the Commission finds that the value of petitioner's property used and useful in its water service in the city of Indianapolis for rate making purposes, including additions and betterments to the property to May 31, 1923, is not less than \$15,260,400.

[fol. 52]

Meterization

The evidence submitted in this investigation shows that the petitioner has more than 50,000 service connections or users, of which about 8,000 are metered. This condition leads to a waste of water and additional operating costs of purifying and pumping and the future water supply should be protected by economy as to both. The service should be gradually shifted to the meter basis until approximately 80 per cent shall be on the meter basis, and there seems to be no particular objection or opposition to this change. It is conceded that the present allowance of 7,500 gallons of water monthly upon the minimum payment for meter service is too large and tends to wastefulness and it also appears that the lower steps of the meter schedule furnish water to certain large consumers for less than the cost of rendering the service. The Commission finds that the minimum meter charge should be reduced from \$1.50 to \$1.40 with an allowance of 700 cubic feet or 5,250 gallons per month. The petitioner is receiving new business at the rate of 4,000 customers a year. The transfer from the flat rate to the meter basis is always attended with considerable annoyance and dissatisfaction, and the Commission finds that all modern homes coming upon the company's lines should be metered and that meters should be placed upon all existing connections which serve more than one family or place of business, or a combination of family apartments or place of business, and all services where waste is committed, and in addition that the company should proceed to make the shift to the meter basis as rapidly as is practicable, which will require more than five years to complete if the company makes reasonable progress therein.

Municipal Service

The relations between the water company and the City are upon the old antiquated basis, in that the City has received large quantities of water for which it paid absolutely nothing, which constitutes a discrimination, producing an unfair burden upon all private consumers, which is unlawful and must be discontinued. The schedule of rates authorized by this order will correct this evil and this Com-

mission will insist that the law be obeyed and that the rates fixed be collected in full from the effective date of this order. The fact that certain services were rendered to the city without charge was considered in fixing the amount of income which the petitioner will be allowed to earn in the immediate future, and in that way the estimated value of such free services is herein charged against the Company.

Fire Protection

The primary purpose in water works plants is fire protection for the property within the municipality, which service must in justice [fol. 53] be paid for by property owners, in taxes, and not by the domestic, commercial and industrial consumers. Much of the investment of this company is made necessary by the obligation to furnish adequate fire protection. The largest mains are installed exclusively for this purpose, and larger engines, boilers and reservoir capacity are required, as well as additional labor and fuel, to have sufficient power to increase the pressure instantly upon a fire alarm. Fire protection decreases insurance rates and insures the safety of the property and the lives of the public. The value of this service is not determined by the quantity of water used but by the value of the security enjoyed by the community. The number of hydrants has little relation to the value of this service and a charge upon this basis, solely, tends to reduce the value of the service by the temptation on the part of the City to have an insufficient number to save expenses and also induces the City to have more large fire hose, and this is an absolute economic waste, for all, as these large hose are expensive and depreciate rapidly. This service is more valuable as well as more economical when furnished through a sufficient number of hydrants, and the cost and maintenance of the hydrant is small in relation to other costs of the service as the same mains, reservoirs, engines, boilers and pumps are required for an inadequate number of hydrants as for an adequate number, and the value of this service can be more justly and equitably measured on the basis of the number and size and length of the mains used for fire protection with a small charge for each hydrant and the schedule of rates herein authorized will recognize the justice of placing a reasonable part of the charge for fire protection upon what is known as the inch mile basis which is, that a large portion of the gross value of fire protection be measured by the size and length of mains ready to render the service. It is also true that property of greater value and requiring greater protection should pay a proportionately larger portion of the gross sum representing the value of the general service.

The Commission finds from its investigation herein that between 25 per cent and 30 per cent of the value of the entire property of petitioner and the cost of operation should not be charged to fire protection and paid for by the City, in addition to payment for water used for other purposes. It must be remembered that a water plant is constructed and operated very largely for the city as a whole,

and the facts above stated will be recognized in the schedule of rates herein authorized.

Rate of Return

The Commission finds that seven per cent is a reasonable rate of return upon the fair value of the used and useful property of the petitioner, which is the rate which Dr. E. W. Bemis, a leading witness for the respondents, testified to be reasonable in his opinion, and the evidence shows him to be a competent witness on this subject. The schedule of rates herein authorized may, for the immediate future, produce a rate of return below seven per cent, but it is [fol. 54] believed, that with the continued rapid growth of the petitioner's business, such rates will in a short period of time produce a reasonable return, and that on the basis of the average return over a period of approximately three years from the effective date of this order the schedule of rates herein authorized will produce an adequate return.

Depreciation

The evidence discloses that the company has been making a charge for depreciation on the basis of eight-tenths of one per cent on a value which includes non-depreciable property. This, of course, is a wrong practice as the Commission does not recognize depreciation on land, going value, water rights and working capital.

In the instant case, petitioner will be authorized to make a charge for depreciation on the basis of a composite rate as applied to the value of the depreciable property only.

Income

Audits of petitioner's records were placed in evidence, showing the gross income for the calendar year 1922 to be \$845,985.63; for the twelve months ended March 31, 1923, to be \$868,987.05; for the twelve months ended May 31, 1923, to be \$882,278.49. Respondent made an estimate of \$928,558.22 as the probable gross income for the calendar year 1923 as based on the first five months operation of said year 1923. Petitioner also presented its operating statement for the first eight months of 1923, showing a gross income of \$590,525.69 which projected to a twelve months basis would be \$885,778.00. The evidence shows that as of August 15, 1923, petitioner has placed its pumping stations on a three shift basis, thus replacing the former "twelve hours seven days a week" operation of its employees, and that the additional expense in this particular would be approximately \$30,000.00 a year; that in June, 1923, petitioner began to set up in monthly installments an amortization of \$17,800.00 a year as ordered by the Commission March 2, 1921.

Evidence was also submitted showing the necessity for an increase in the depreciation reserve charge of approximately \$37,000.00 per year and an increase in taxes of approximately \$20,000.00 per year, all of which is chargeable as operating expenses. The total of the foregoing being approximately \$105,000.00 which if deducted from

the gross income as shown by the foregoing statements will leave a gross income of approximately \$800,000.00 available for return from petitioner's property, which is inadequate and insufficient under the law.

[fol. 54½] The Commission, having heard all the evidence and argument of counsel, and having made a full and complete investigation, upon full consideration finds:

That the fair value of petitioner's property used and useful in its business, as of May 31, 1923, for rate making purposes, is not less than \$15,260,400;

That the schedule of rates proposed by petitioner in its supplemental petition would be exorbitant and discriminatory and the approval of said proposed schedule is denied, but the schedule of rates now in effect is insufficient;

That the City of Indianapolis should pay for all water used for municipal purposes and the company should require such payment and is chargeable with the collection thereof;

That meterization of the services of the petitioner should be extended more rapidly, and that the depreciation allowance of petitioner should be adjusted in accordance with the necessities as shown by evidence introduced in this proceeding.

It is therefore ordered by the Public Service Commission of Indiana, that the Indianapolis Water Company be, and it is, authorized and directed to charge and collect the following rates for water service now furnished, effective January 1, 1924, and until further orders of this Commission:

Meter Service—Block Rate

	Per month per 100 cu. ft.
First 700 cubic feet	\$.20
Next 11,300 cubic feet .....	.13
Next 18,000 cubic feet .....	.11
Next 20,000 cubic feet .....	.09½
Next 50,000 cubic feet .....	.08
Over 100,000 cubic feet .....	.06

Monthly minimum charge per meter shall be as follows:

[fol. 55]	Per month
5⁄8 inch meter	\$ 1.40
3⁄4 inch meter	3.00
1 inch meter	4.50
1½ inch meter	7.00
2 inch meter	11.00
3 inch meter	20.00
4 inch meter	30.00
6 inch meter	50.00

All meter rates shall be due and payable monthly.

When and where more than one family, office, apartment or place of business is served through the same meter an additional minimum

of \$1.00 per month for such additional family, office, apartment or place of business shall be charged, and such additional minimum shall entitle said consumer to 500 cubic feet of water at the rate herein authorized.

No flat rate service shall be furnished at less than \$.75 per month.

Public Fire Protection

The aggregate charge for public fire protection shall be divided into two parts:

1. Hydrant Charge:

An annual charge of \$12.00 per public fire hydrant.

2. Inch-foot Charge:

An annual charge of \$.0125 per inch-foot on all transmission and distribution mains of six inch diameter and larger, (hydrant branches to be excluded.)

The water company shall furnish the proper city authorities a monthly statement showing the size of the pipe and the number of feet of each size in service.

Each fire cistern shall be charged for at the same rate as fire hydrants.

(Inch-foot is the number of units found by multiplying for each sized main the number of inches of nominal inside diameter by the number of feet in its length.)

It is further ordered, that all special contracts and preferential rates shall be discontinued and all free service now being furnished to the City of Indianapolis or to any other person, firm or corporation, shall be discontinued, and that all such special preferential and [fols. 56 & 57] free service shall be furnished only under the duly authorized and lawful rates.

It is further ordered, that the Indianapolis Water Company be, and it is, authorized and directed to proceed more rapidly with its metering program, to the end that as full a metered basis as practical be obtained as soon as possible; that the option of installing meters shall rest with the company; and that, as a general policy, the larger consumers be metered before the smaller consumers.

It is further ordered, that all bills for service shall be due and payable at the office of the company (or at any other place the company may designate which is more convenient to the consumer), within ten days after the date of the bill.

It is further ordered, that the Indianapolis Water Company be, and it is, hereby authorized and directed to provide for depreciation not in excess of 1.25 per cent per annum of the cost of the depreciable property.

It is further ordered, that all rates, rules and regulations not in conflict herewith are to be continued in full force and effect.

It is further ordered, that on or before January 1, 1924, the Indianapolis Water Company shall file with the Tariff Department of

this Commission, and shall post and keep posted in its office in full view of the public during the entire period such schedule is in effect, a printed or typewritten copy of such schedule of rates, as required by Section 41-47 of the Public Service Commission Act.

It is further ordered, that within twenty days from the receipt of this order, the Indianapolis Water Company shall pay to the Treasurer of the State of Indiana, through the Secretary of this Commission, the sum of \$8,972.10, expenses incurred by the Commission in the investigation of this cause, as required by Section 74 of the Public Service Commission Act.

McCardle, Douglass, Concur.

Wampler, Artman, Dissent.

Approved November 28, 1923.

Attest:

L. C. Loughry, Secretary. (Seal of Public Service Commission of Indiana.)

[fols. 58 & 59] IN UNITED STATES DISTRICT COURT

SUMMONS AND SHERIFF'S RETURN—Filed Dec. 29, 1923

UNITED STATES OF AMERICA,
District of Indiana:

The President of the United States of America to the Marshal of the District of Indiana, Greeting:

You are hereby commanded to summon John W. McCardle, Indianapolis, Maurice Douglass, Indianapolis, Oscar Ratts, Indianapolis, Frank Wampler, Indianapolis, Samuel Artman, Indianapolis, as members of the Public Service Commission of Indiana, if they be found in your district, to be and appear in the District Court of the United States, for the District of Indiana, aforesaid, at Indianapolis, on the 9th day of January next, to answer a certain bill in equity filed and exhibited in said Court against them by Indianapolis Water Company.

Hereof they are not to fail under the penalty of the law thence ensuing.

And have you then and there this writ.

Witness the Honorable Albert B. Anderson, Judge of said Court, and the seal thereof, this 21st day of December, A. D. 1923.

William P. Kappes, Clerk. (Seal.)

Memorandum

The said defendants are required to file their answer or other defense in this suit in the Clerk's Office of said Court on or before the twentieth day after service, excluding the day thereof; otherwise the said Bill may be taken pro confesso.

William P. Kappes, Clerk.

[DISTRICT OF INDIANA:]

I received this writ at Indianapolis, in said District, at — o'clock — M., on the 21st day of Dec., A. D. 1923, and served the same in Marion County, as follows:

21st day of December, 1923, by copy, upon the within named John W. McCardle, Maurice Douglas, Oscar Ratts, Frank Wampler and Samuel Artman, as members of the Public Service Commission of Indiana, by reading the same to and within the hearing of, and by delivering a true copy of this writ to each of them, at Indianapolis, Marion County, Indiana, December 21, 1923.

Marshal's Costs: 5 Services, \$10.00.

L. P. Meredith, U. S. Marshal, by S. T. Hickman, Deputy.

[File endorsement omitted.]

[fol. 60]

IN UNITED STATES DISTRICT COURT

[Title omitted]

APPEARANCE OF COUNSEL—Filed Jan. 9, 1924

We, U. S. Lesh, Attorney General of Indiana and Edward M. White, Assistant Attorney General of Indiana, hereby enter our appearance as attorneys for the defendants in the above entitled cause.

U. S. Lesh, Attorney General; Edward M. White, Assistant Attorney General, Attorneys for Defendants.

[fols. 61 & 62]

IN UNITED STATES DISTRICT COURT

ORDER APPOINTING JUDGE—Feb. 25, 1924

Now on this 25th day of February, 1924, the above mentioned Judges Honorable Evan A. Evans, Ferdinand A. Geiger and Albert B. Anderson sitting and all the parties, complainant and defendant, being present in Court, in pursuance of a request heretofore duly made according to law, Honorable Evan A. Evans, presiding Judge at this sitting, announces that Honorable Ferdinand A. Geiger District Judge of the United States of this Circuit, for the Eastern District of Wisconsin is designated, and appointed the Judge to try this case.

[fol. 63]

IN UNITED STATES DISTRICT COURT

No. 750. In Equity

INDIANAPOLIS WATER COMPANY, Complainant,

vs.

JOHN MCCARDLE, MAURICE DOUGLASS, OSCAR RATTIS, FRANK Wampler, and Samuel Artman, as members of the Public Service Commission of Indiana, Defendants; City of Indianapolis, a Municipal Corporation, Petitioner.

PETITION FOR INTERVENTION—Filed March 10, 1924

To the Honorable Judge of the District Court of the United States for the District of Indiana:

The City of Indianapolis, Petitioner, a municipal corporation of the State of Indiana, respectfully represents and shows to the Honorable Judge of the United States District Court, for the District of Indiana:

I

That the Petitioner is a municipal corporation of Marion County, Indiana, and is a citizen and resident of said State.

II

That heretofore on the 21st day of December, 1923, the Indianapolis Water Company, a corporation of Marion County and State of Indiana, a citizen of said State and a public utility, with its residence [fol. 64] only in the State of Indiana, filed in the District Court of the United States, for the District of Indiana its bill of complaint (No. 750) in equity against the defendants above named: John McCardle, Maurice Douglass, Oscar Ratts, Frank Wampler and Samuel Artman, as members of the Public Service Commission of the State of Indiana, seeking by said bill of complaint an injunction against each and every said defendant, as members of the Public Service Commission of Indiana, to the purpose that said defendants and each of them be restrained from enforcing or attempting to enforce certain alleged confiscatory rates, tolls charges and schedules by them, in their official capacity, fixed and approved in an order dated November 28, 1923; and be restrained from interfering in any way with the enforcement and collection by the Indianapolis Water Company, of certain higher rates, charges, tolls and schedules, established by said Water Company and made a part of its amended petition filed with the Public Service Commission prior to said order of November 28, 1923, and as a part of the proceedings before said Commission in which said order was issued; and that said defendants and each of them be restrained in their official capacity from in any way putting in force as a rate-making base for said Water Company, any value less than \$18,650,000, as of the date of November 28, 1923.

III

That said bill of complaint in said cause is as follows:

[fol. 65] (Bill of Complaint heretofore set out in first part of transcript.)

[fol. 66]

IV

That said order of November 28, 1923, the enforcement of which said Water Company, by its bill of complaint, seeks to enjoin, was entered by the defendants or a majority of them as members of the Public Service Commission of Indiana, and fixed the value of the used and useful property of the Indianapolis Water Company at not less than \$15,260,400, and that said value was fixed as a rate base for the purpose of determining rates, tolls, charges and schedules for water service by the Indianapolis Water Company, as a public utility, to the City of Indianapolis and its citizens.

V

That said value was so fixed by said Public Service Commission on November 28, 1923, in a proceeding begun by complainant Water Company before said Commission, in which proceeding the Water Company by complaint or petition requested that the property of said Water Company—used and useful, in its rendering public service to the city and inhabitants of Indianapolis—be valued by the Commission and that a schedule of water rates based upon the fair value of such property be established by the Commission.

VI

That said proceeding, before said Commission, was so begun under and by virtue of the law of the State of Indiana, relative to the regulation of public utilities and creating the Public Service Commission (Acts 1913, chapter 76); that the City of Indianapolis under said law and rules of said Commission appeared in said proceeding before said Commission upon its own behalf, and in behalf of the inhabitants and citizens of Indianapolis, who had interest therein; that said city did, by its Corporation Counsel and its experts, make exhaustive investigations and study of the values of the Water Company's property and of the extent and character of its service, and through said counsel and experts resisted the petition of said Water Company during the entire proceedings, covering many weeks in time.

VII

That subsequent to November 28, 1923, and after the order of said Commission in said proceeding had been issued, the City of Indianapolis filed with said Public Service Commission, as provided for in the law of the State of Indiana relating to public utilities (Acts 1913, chapter 76, sec. 79, p. 191) a petition for rehearing on said amended petition of the Water Company requesting that a vacation and revision of said order might be had and that said value

of the Water Company's property as fixed by said Commission be reduced and the charges, rates, tolls and schedules fixed and available under said order be reduced and revised; and that said petition for rehearing was filed on the 7th day of December, 1923, and was pending undetermined and unruled on by said Commission on the 21st day of December, 1923, when the Indianapolis Water Company filed its bill of complaint in the above entitled cause and that said petition for rehearing has not to the date of this petition for intervention been ruled on by said Public Service Commission, and is still pending and undecided.

VIII

That said bill of complaint filed by said Water Company in this Court has not as yet been answered as to the merits by any defendants thereto, but that a pleading in the nature of a motion to dismiss [fol. 68] said bill of complaint for want of equity was filed by said defendants on January 9, 1923, and is now pending.

IX

Your petitioner would further represent and show: That as a municipality it is directly interested in, and affected by, the order of the defendants attacked by the complainant in this, to-wit:

That said city is required to, and does, obtain from said Water Company, all water services for municipal uses including fire protection, paying to said Water Company annually over \$240,000.00 for said service; that more than 50,000 citizens, inhabitants of said city, are customers of said Water Company and are required to and do utilize its water service and are directly affected by and interested in said order of said Commission; that the cost of service to the city and its corporate capacity will be increased by said order \$100,000.00 or more per annum and that said order and said increased cost are now in effect; that the increase of cost of water service to the inhabitants of Indianapolis, who are users of such service, as provided in said order will be enormous and that such increase is now partially in effect; that said Water Company is the only utility furnishing said water service in the City of Indianapolis, and that no other public utility for such service does exist or can exist in said city except by permission and order of the Public Service Commission of the State of Indiana; that the law of said State relating to public utilities, in application, operates to create a permissive monopoly by indeterminate permit; and that even if there were no prohibition by law, the city would be, and in fact is, effectually prohibited, by virtue of the expense incident thereto, from maintaining its own private mains and water service for municipal uses including fire protection.

X

That in the proceedings before the Public Service Commission in which said order of November 28, 1923, was issued, the City of Indianapolis, by its counsel and experts, presented a voluminous mass

of evidence relating to the value of said property of said Water Company and by its Special Accountant presented a large mass of evidence relating to the past earnings of the Water Company, all of which evidence was submitted for the purpose of showing and tended to show what your Petitioner believes and, therefore, avers to be a fact, that the value of the used and useful property of the Water Company was much less, to-wit: Six million dollars less, than the Water Company there represented and much less, to-wit: from Three to Four Million Dollars less—than was found by said Commission.

XI

That it has been and still is the intention of the City of Indianapolis to bring, and it will bring, an action in the State Courts of Indiana, to vacate and set aside said order of the Public Service Commission as excessive, unreasonable and unlawful, under the act relating to public utilities, (Indiana Acts of 1913, chapter 76, section 78, p. 190) which provides for such action: that defendants are advised of the intention of the city to bring such action and are advised of the City's belief and contention that said order fixes and makes available to said Water Company rates, schedules, tolls and charges which are excessive, unreasonable and unlawful as against the City and those of its inhabitants who are consumers and customers of said Water Company; that it is believed and, therefore, averred that said Public Service Commission, because of such facts [fel. 70] and its knowledge of them and because of its order would be embarrassed by and would be estopped from making full defense in this cause and would be embarrassed by and estopped from introducing certain important evidence in defense which is available material and competent, but which if introduced would show and tend to show not only that said order is not confiscatory but incidentally would show, on the contrary, that said order is excessive, unreasonable and unlawful by reason of the excessive rates, tolls and charges allowed, and that the valuation of said Water Company's property as fixed in said order, as a rate base, is approximately \$4,000,000.00 in excess of the actual fair value of said property, used and useful, for public service and convenience.

XII

That said Commission is a body exercising quasi-judicial, legislative and administrative functions, charged with equal duties of protecting the utility and the public in controversies between them, and as such has, under the law creating and controlling it, no financial or other interest of material character in defending against the injunction sought by the complainant Water Company; that in view of these circumstances and to the end that, in the hearing before this Honorable Court on said Water Company's bill of complaint for injunction, it may be presented, by evidence, to this Court for consideration that the value fixed by the order and the rates therein are not only non-confiscatory, but are in fact much

higher than is warranted (which evidence the City will and can present if permitted to do so), and to the end that it may have full and adequate defense of its interest and of the interest of its citizens who are affected by said order; (there being now no party or person before the court representing its interest or in a position to do so) it is necessary and essential that the City of Indianapolis, in its corporate capacity and as representative of a class, to-wit: citizens of said city, users and consumers of complainant's service, who are directly interested in and affected by said order, be made a party defendant to the above entitled cause and be permitted by its solicitors to appear and defend against said bill of complaint.

XIII

Your Petitioner further represents and shows that its interest in said cause is otherwise involved in this, to-wit: That if an injunction be granted as sought by the complainant Water Company in the above cause, said city will it is informed and believes and so avers, be deprived of its right to pursue its remedies for vacation or revision of said order of said Public Service Commission, in the State Courts of the State of Indiana, and if not permitted to appear and defend against the bill of complaint in the above entitled cause, will be thus deprived of such rights, involving its material and pecuniary welfare, without process.

XIV

That the city is prepared, in the defense of its interest and the interest of its citizens affected by said order, to resist said complaint in the above cause and to produce on the hearing of said cause as witnesses, skillful and expert engineers, and an accountant who have made a thorough study of the value of said Water Company, its previous financial history, the cost of its reproduction, its original cost, expense of operation, and who have prepared tables and data as exhibits, all of which this petitioner is informed and believes to be and, therefore, avers are assential to the full consideration of this cause by the Honorable Court. Your Petitioner is informed and believes and, therefore, alleges that such evidence, as it is prepared to produce on a hearing of this cause, can be presented without embarrassment only by the city or some party not estopped or embarrassed by the order of the Public Service Commission, to show that the value as fixed by the Public Service Commission is greatly in excess of the fair value of the used and useful property of the said Water Company, and that the rates, schedules, tolls and charges fixed and available under said order are not only non-confiscatory, but are excessive, abnormal and unnecessary.

XV

That this Petitioner, if permitted to intervene, is prepared to make its defense without delay to said complainant's cause; and is pre-

pared to, and will on the amount being fixed, pay or secure in all things as the Honorable Court may order such costs as may accrue and be chargeable to its defense.

Wherefore, your Petitioner asks leave of Court to be permitted to intervene in this cause and become a defendant in its corporate capacity and as a representative of a class, to-wit: its citizens who are patrons of complainant and users of complainant's said water service; and to be permitted:

1. To defend in this cause by its solicitors, as a party defendant with full and complete rights of defense.

2. To defend in this cause by its solicitors, and to file its proposed answer, a copy of which is attached hereto, marked "Exhibit A," and hereby made a part hereof.

Respectfully submitted, City of Indianapolis, by Taylor E. Groninger, Corporation Counsel; Ketcham, McTurnan & Higgins, Its Solicitors.

[fol. 73] Sworn to by Taylor E. Groninger; jurat omitted in printing.

[fol. 74] IN UNITED STATES DISTRICT COURT

[Title omitted]

ANSWER OF INTERVENER, CITY OF INDIANAPOLIS, TO THE BILL OF COMPLAINT FILED

The City of Indianapolis, a municipal corporation, citizen, and resident of the State of Indiana, intervenes as defendant by leave of court and for its separate answer to the bill of complaint herein says that:

I

It admits: that complainant is a public service corporation, citizen and resident of Indiana; that each of the defendants named as members of the Public Service Commission of Indiana were members of such commission on November 28th, 1923; and that each is a citizen and resident of the State of Indiana, but as to whether or not this suit arises under the constitution and laws of the United States, that being a question of law for determination of the court when the issues of fact relating thereto are settled, this defendant neither admits nor denies except in so far as it hereinafter denies or admits the facts relating thereto.

[fol. 75]

II

It admits: that the amount of controversy in this suit exclusive of interest and costs is in excess of three thousand dollars; that the Water Company was incorporated in 1881 under the statutes of Indiana, with power to purchase property of water work companies

at judicial sale; that the incorporators of the complainant Water Company did purchase at judicial sale the property of the Water Works Company of Indianapolis; that the complainant was incorporated for the purpose of, and its business from incorporation to date has been, furnishing the City of Indianapolis and its inhabitants with water carried through mains laid in the streets and other places of the City of Indianapolis; that during all said time, water service for fire protection has been furnished through public fire hydrants and cisterns, the latter owned by the City of Indianapolis, and located in said city by its direction as a contracting party; that as to what rights and under what laws the complainant acquired any rights of said Water Company of Indianapolis, this plaintiff is not informed but, having no reason to doubt, therefore admits the rights of said Water Works Company arise directly or indirectly under a statute of Indiana (Session Laws of 1865, page 103), which provided for the construction of the Water Works in incorporated cities and enabled the cities to subscribe for stock therein and to issue and sell bonds for the payment thereof, and which likewise provided a veto power over water rates established by the corporation, such veto not to be exercised so as to prevent an annual income or dividend of ten percent of capital stock after payment of costs and necessary repairs and expenses and after reserving one-half percent per annum as surplus or contingent fund.

III

That is has no knowledge or belief as to whether complainant from 1881 to May 1913 at various times established and fixed water rates which in no instance were vetoed or annulled by the City of [fol. 76] Indianapolis, and therefore as to this denies in order to require complainant to be put to the proof; but it admits that since May 1, 1913, when the Indiana Public Service Commission Statutes became effective (Session Laws of 1913, page 167), the complainant has submitted rates from time to time, as complainant made changes in them, to the Public Service Commission of Indiana, in pursuance of the provisions of said Act, and that complainant has enforced and collected such rates; and that it has accepted such rates, as were authorized, fixed and established by the Public Service Commission of Indiana, without objection; but in so far as there is any inference in complainant's averments or this defendant's admissions that the Public Service Commission made a valuation of the property of the complainant or fixed, approved and established any rates, schedules, tolls and changes prior to the year 1917, such inference is denied, and it is said in contradiction thereof that the fact is, that such complainant prior to 1917 was operating under rates which were not fixed or regulated by the Public Service Commission of Indiana and that the first rate schedule authorized by said Commission and controlling complainant's water service charge in the City of Indianapolis was approved by said Commission on March 15, 1917, in an order to said Commission known as No. 1409; that the value of complainant's property used and useful in such public

service was fixed by said order No. 1400 at not less than \$9,500,000; that said valuation was accepted by complainant without objection; and that three times subsequent to the approval of said order No. 1400, complainant applied for increased rates and each application for increase was granted and the value of complainant's used and useful property was fixed by the Commission, and was accepted by the complainant; and that in each instance of increase said previous valuation of \$9,500,000.00, as fixed by order No. 1400 in 1917, was taken as a correct base for fixing rates for complainant, except that such value was increased to the extent of any additions to and improvements on said property made subsequent to March 15, 1917, the date of said order number 1400.

[fol. 77]

IV

It is admitted, that the complainant filed a petition with the Public Service Commission of Indiana, June 8, 1923, asking a valuation by the Commission of complainant's property used and useful in its public service, rendering to the City of Indianapolis for municipal purposes and to its citizens for domestic purposes; and that said petition further asked that a schedule of water rates based on the fair value of said property should be established by the Commission; that subsequently on July 14, 1923, an amended petition was filed before the Commission, and that said amended petition was accompanied by a schedule of water rates which complainant proposed, unless prevented by said Commission, to put into effect; that Exhibit A and A1, of complainant's bill, are copies respectively of said amended petition and said schedule of rates.

V

It is admitted that in response to said petition, and after proper notice, the City of Indianapolis, Chamber of Commerce and other organizations appeared before said Commission, in resistance of said amended petition; that the evidence and arguments were heard, written and printed briefs were filed and following said hearing to-wit on the 28th day of November, 1923, the said Commission entered an order evaluating the used and useful property of complainant and fixing a schedule of rates with rules and regulations; that such value, so found by said Commission of said used and useful property, was greatly less than the value claimed by complainant in its said amended petition, and that the rates so established were greatly lower than the rates sought to be put in force by the complainant's schedule and made a part of its said amended petition.

VI

It is admitted; that said order of said Commission of November 28th, 1923, found the value of complainant's used and useful property as of the date of May 31, 1923, and fixed such value at not less than \$15,260,400.00; that said value included additions and bet-
[fol. 78] terments up to May 31, 1923, but did not include any ad-

ditions and betterments made between May 31, 1923, and November 28, 1923, the date the said order was issued; that evidence was produced before the Commission, prior to the issuance of said order, by the complainant for the purpose of showing certain expenditures made by complainant after May 31, 1923, and for the purpose of showing that complainant was under contract for certain work, but as to what amount the evidence actually shows to have been expended subsequently to May 31, 1923, and as to what amount was involved in any contract of complainant then under way is a matter of doubt and dispute, but on information and belief it is denied that such amounts were between \$650,000 and \$700,000, and on information and belief it is said that such amounts were in fact much less.

VII

It is admitted: that the schedule of rates adopted by said Commission in its order of November 28, 1923, with the exceptions herein-after referred to was the schedule of rates in effect at the time of said complainant's petition and at the time of entering said order; that the rates fixed by said order of November 28, 1923, were identical with the rates filed with the Commission and in force at the time the complainant filed its amended petition insofar as such rates affected flat rate customers of whom the complainant had approximately 42,000. But in connection with this admission, this defendant says: that while such flat-rate remains the same, that said complainant was authorized by said order of November 28, 1923, to meterize its flat-rate customers, and it is the information and belief and therefore it is averred that such meterization so authorized affords the complainant a possibility of revenue, very greatly in excess of that provided for on the basis obtaining prior to November 28, 1923. It is admitted: in respect to other material changes in rates made by such order of November 28, 1923, and averred by said complainant, that such changes consisted of the following: (1) A change requiring the City of Indianapolis to pay for what had formerly been "free water" at the meter rate established for other consumers—and this defendant avers in respect to this change on information and belief, that such change will give an increased revenue to this complainant of approximately \$25,000 annually; (2) A change in the price of fire protection from \$60.00 per hydrant per year, to a combination charge of \$12.00 per hydrant, plus a rate per "inch-foot" of mains based on the length and diameter of mains of 6 inches or more now in place or hereafter put in service—in respect to this change this defendant denies, on information and belief that the \$12.00 per annum charge is a repair charge and aver that such charge is a flat-rate charge, and further avers, on information and belief, that the change herein referred to will give the complainant by way of increased revenue between \$70,000 and \$100,000 annually; (3) A change decreasing the minimum monthly fixed charge on $\frac{3}{8}$ inch meters, those commonly used by domestic consumers, and an increased meter charge to large consumers, in respect to such changes this defendant says: (1) That as to $\frac{3}{8}$ inch meter charge, while the

minimum charge is slightly decreased, the said order authorizes an additional minimum charge for such meter through which more than one family, office, apartment or place of business is served, at the rate of \$1.00 per month for each additional user, and that such change in said order makes available to the complainant a very greatly increased return annually upon the use of such meter. (2) As to the increased meter charge for the large consumers whether or not such increase will bring the annual return to this complainant only slightly or whether it will bring it very greatly above the actual cost of pumping, this defendant does not know and has no basis for relief and therefore denies.

[fol. 80]

VIII

It is admitted: that Exhibit B and Exhibit B2, filed with complainant's bill of complaint are copies respectively of said order of said Commission, issued on November 28, 1923, and of the schedule of rates issued by the Commission as a part of said order.

IX

It is denied: that at the time of the filing of the complainant's petition, with the Commission, the fair value of complainant's property used and useful in its said public service was in excess of \$18,000,000.00, and this defendant not being informed as to the value of the betterments and additions made by said complainant upon its property from the date of its original petition to the time of the Commission's order of November 28, 1923, it therefore denies for the purpose of putting said complainant to its proof that such betterments and additions amounted to or increased the value of the used and useful property to the amount of \$650,000.00 or \$700,000.00, or any other amount. In respect to complainant's averred value of \$18,000,000.00 this defendant says: that on November 28, 1923, the total fair value of the complainant's property used and useful did not exceed an outside sum of \$12,000,000.

X

It is admitted: that the Commission in its order of November 28, 1923, found that the Water Company was entitled to a gross income of 7% on the fair value of its used and useful property; that by the term "gross income" the Commission meant, income, such, that after paying all expenses of operation and taxes and after allowing for depreciation reserve, the water company should receive a reasonable return upon the fair value of its property which reasonable return is hereinbefore admitted, the Commission found to be 7%; but this defendant says in respect to complainant's averments relating to the Commission's finding as to the per cent of return to which the water company was entitled, that such averments are averments of evidence and opinion, and that admissions herein in respect thereto are not admissions that such finding was a correct finding of

fact or facts, and therefore asks that complainant may be put to its proof of the facts.

XI

It is admitted: that the Commission in making its order and schedule of rates complained of, by the complainant, estimated that the net annual return of the water company on its pre-existing rates, (the rates in effect at the time the order of November 28, 1923, was entered) would, on its used and useful property amount to \$800,000.00 but this defendant denies the accuracy of such estimate of said Commission and avers that it is erroneous and inaccurate in this to-wit: that it is at least \$100,000.00 less than the actual net return upon the property of said complainant under said preexisting rates. This defendant says; that while it is to some degree a matter of speculation and uncertainty as to the exact amount of increase in annual return which is available to the Water Company under said order of said Commission of November 28, 1923, that defendant is informed and believes and therefore avers; that this complainant will receive from \$100,000 to \$150,000 additional annual revenue from the City under said order and will receive a very largely increased net annual revenue from the private consumers of said city, which together with the said increased revenue to be received from the city will result in a considerably greater annual sum than \$200,000; and defendant is informed and believes and therefore avers, that the net annual income available to the complainant under the order of November 28, 1923, will be greatly in excess of 7 per cent on the fair value of the complainant's property used and useful in its public service to the city of Indianapolis and its inhabitants; and that such net annual revenue under such order of November 28, 1923, will greatly exceed 6 per cent on the value of the said company's property as found in said order of November 28, 1923, when augmented by the value of actual additions and betterments made between May and November 28, 1923.

[fol. 82]

XII

This defendant denies that the schedule of rates established by the Commission in said order of November 28, 1923, will net only 5½ per cent or less on the fair value of the Water Company's property, as of May 31, 1923, when increased by the cost of additions and betterments made on said property up to November 28, 1923; and this defendant says, that the facts are, in respect to the per cent of return under said order of November 28, 1923, that the complainant Water Company has available to it an increased revenue from its present customers and patrons and will have in addition to this a largely increased revenue from new customers and patrons, and that the total of such increased net revenue will be far in excess of 5½ per cent and much in excess of a fair return on the fair value of the property of said company's property used and useful in public service in the city of Indianapolis on May 31, 1923; and further in this connection this defendant avers—on the basis of information supplied to it in the

hearing before the Public Service Commission by the complainant, which information this defendant believes to be true—that the increase of customers from year to year in complainant's business has been regular and enormous and that the increased revenue each year from this source allowing for additional cost for the furnishing of said service, will very greatly increase the total net revenue received by the complainant annually.

XIII

This defendant denies: that the net return, available under said order and rates, to the complainant on the fair value of its used and useful property will be, so low as to result, if enforced, in taking the property of said Water Company without compensation, without due process of law, or so low as to constitute a denial to the Water Company of the equal protection of the laws; and denies the revenue available under said order and rates will, if enforced constitute in any manner whatsoever a violation of the provisions of the Constitution of the United States or the State of Indiana; and in further contradiction of the averments of the complainant in this respect, this defendant says that under said order of November 28, 1923, said rates and schedules allowed and available will in fact afford this complainant an annual net revenue much in excess of a fair return on the actual fair value of its property used and useful in its service to the City of Indianapolis and the inhabitants of that city; and it says as to the averments of the complainant, in respect to certain hopes of making new additions and betterments in the year 1925 and 1926, that this defendant is not informed other than as in the bill of complaint is averred, and therefore as to said hopes this defendant cannot make denial, but if said hopes be proper matters for evidence, then this defendant asks that the complainant be put to its proof.

XIV

This defendant denies: that the "spot" value of labor and material during the year 1923, when applied in the process of creating one of the evidences of fair value of the property of the complainant owned throughout the year of 1923 will show that the fair value of said property was and is in excess of \$22,000,000. And this defendant says: that the value of said property estimated by "spot" prices on the highest day of any days in the year of 1923, with proper deductions would not be in excess of an outside figure of \$13,500,000. This defendant denies: that the evidence before the Public Service Commission establishes a "spot" value of such property during such period of \$22,000,000.00; and in respect to what the said evidence on this subject did establish, says that a liberal estimate of such evidence was made in a report or decision of the minority members of [fol. 84] the Commission, and that *and that* such estimate fixes the "spot" value during such period at nearly \$9,000,000 less than averred by complainant or approximately \$13,000,000.00.

XV

This defendant denies that the net earnings of the complainant in the past five (5) years under rates established or approved by the Commission did not equal five (5) per cent on the fair value of the complainant's property used and useful in its public service business during such five (5) years; and says that the actual net earnings of this complainant during such period averaged in excess of seven (7) per cent on the fair value of its said property.

XVI

It is averred that the history of the Indianapolis Water Company from the date of its inception and first operation to the present time is a history of marked financial success; that during the years from 1881 to 1923, the actual returns to the stockholders of said company on their stock have been excessive returns, when viewed from the aspect of a private corporation and have been grossly excessive and unfair when viewed from the aspect of a public utility entitled to protection of its property and its business by the State and consequently entitled to only a fair and reasonable return on the value of its used and useful property and for its services actually rendered to the public; that from the complainant's own records, this defendant is informed and therefore avers that at no time in the history of the company has there been an absence of annual net profits sufficient to warrant if so applied a grossly excessive return on the outstanding common stock; that the various evidence of values, which under the law are proper for consideration in the determination of the fair [fol. 85] value of the used and useful property in a public utility and which evidences—are to a large degree if not wholly, available from the records of the company—are such as to warrant an averment by this defendant and accordingly it is averred that the fair value of the property of complainant actually used and useful in its public service does not exceed \$12,000,000.00.

XVII

That defendant is informed and believes and therefore avers that at the time the order of November 28, 1923, was issued by the Public Service Commission, this complainant approved said order and was satisfied with said order as one affording it a full and satisfactory return on its used and useful property and that within a few days after said order was entered said complaint publicly and openly, through a communication to many of its patrons and consumers, inhabitants and citizens of the City of Indianapolis, did seek to justify the order of said Commission and did show, that said complainant Water Company was not taking advantage of all of the favorable provisions of said order, and was not obtaining as high *as* return as was available to it under said order, and that the water rates of over 40,000 of its consumers were not in fact changed under said order by said company, although as this defendant avers, said order made available

to said company an increase of rates for service to said 40,000 consumers.

XVIII

For as much as it appears from the foregoing denials and averments of this defendant, that the bill of complaint is without basis of fact to support in equity the remedies and relief as are therein sought, this defendant asks that such remedies and relief be hence denied and that this defendant be granted such relief in the premises, from costs and otherwise as this Honorable Court may find proper in the premises.

City of Indianapolis, by Taylor E. Groninger, Corporation Counsel. Ketcham, McTurnan & Higgins, Its Solicitors.

[fol. 86] Sworn to by Taylor E. Groninger. Jurat omitted in printing.

[fols. 87 & 88] IN UNITED STATES DISTRICT COURT

MINUTE ENTRY—March 10, 1924

And the Court being duly advised grants said application and said answer is now herein filed, and is in the words and figures following, to wit:

(Answer heretofore set out as a part of petition for intervention.)

[fol. 89] IN UNITED STATES DISTRICT COURT

[Title omitted]

ANSWER—Filed March 14, 1924

The defendants in the above entitled action other than the City of Indianapolis for answer to plaintiff's bill of complaint say

1

They admit that complainant is a public utility incorporated under the laws of the State of Indiana and a resident of the State of Indiana; That each of the defendants named as members of the Public Service Commission of Indiana were members of such commission on November 28, 1928 and have been members thereof continuously since said date and that each of them is a resident and citizen of the State of Indiana.

They admit that the amount in controversy in this suit exclusive of interest and costs is in excess of \$3,000.00; that the Indianapolis Water Company was incorporated in 1881 under the laws of Indiana with power to purchase property of water companies at judicial sale; that plaintiff did purchase at judicial sale the property of the Water Works Company of Indianapolis and that complainant's business from the date of its incorporation has been and continuously since then to furnish the City of Indianapolis and its inhabitants with water carried through mains laid in the streets and other places of the City of Indianapolis; that during all said time water service for fire protection has been furnished through public fire hydrants and cisterns, the latter owned by the City of Indianapolis and located in said city by its direction [fol. 90] as a contracting party; that water service has been furnished to the inhabitants of said city and its environs by complainant continuously from the date of its incorporation to the present time.

That said defendants other than the City of Indianapolis have no knowledge or belief as to whether complainant from 1881 to May 1913 at various times established and fixed water rates which in no instance were vetoed or annulled by the City of Indianapolis and therefore as to such averments they deny and require complainant to prove the same. They admit that since May 1913 when the Shively-Spencer Public Utility law became effective (Acts 1913, c. 167) complainant has submitted rates from time to time to the Public Service Commission of Indiana as provided in such act it should do and that complainant has enforced and collected only such rates; and that it has accepted such rates as were approved by the Public Service Commission of Indiana, but in so far as there is any inference in the bill or these defendants' admission that the Public Service Commission made any valuation of the property of complainant or fixed, approved and established any rates, tolls or charges that complainant might charge for its service prior to the year 1917 such inference is denied and said defendants aver that such complainant prior to 1917 was operating under rates which were not established or regulated by the Public Service Commission of Indiana and that the first rate schedule authorized by said commission was approved by such Commission on March 15, 1917 in an order of the Commission known as No. 1400 on its docket; that the value of complainant's property used and useful in serving the City of Indianapolis and its inhabitants was fixed and determined by said order No. 1400 at not less than \$9,500,000.00; that said valuation was accepted by complainant without objection, and that three times subsequent to the approval of said order No. 1400 complainant applied to the Public Service Commission for increased rates and each of such applications were granted and the value of complainant's used and useful property was fixed by the Commission and was accepted by the complainant; and that in each in-

stance of increase said previous valuation of \$9,500,000.00 as fixed by order No. 1400 in 1917 was accepted by complainant and taken as a correct base for fixing rates for complainant except that such value was increased to the extent of additions to and improvements on said property made subsequent to March 15, 1917, the date of said order No. 1400.

4

They admit that the complainant filed its petition with the Public Service Commission of Indiana, June 8, 1923 asking a valuation by the Commission of its property used and useful in its public service and that said petition further asked that a schedule of water rates based on the fair value of said property be established by the Commission; that thereafter on July 14, 1923 it filed an amended petition and said amended petition was accompanied by a schedule of rates which complainant proposed unless prevented by said commission to put into effect; that exhibit A and A #1 of complainant's bill are copies respectfully of said amended petition and said schedule of rates.

[fol. 91] Said defendants other than the City of Indianapolis admit that after a proper notice of the filing of complainant's petition and amended petition with the commission, the City of Indianapolis, Chamber of Commerce and other civic organizations appeared before said Commission to resist said petitions: That a public hearing on said petitions was heard by the Public Service Commission at which evidence was aduced for and against the same and arguments and briefs were heard and filed thereon and following all this on November 28, 1923 the Public Service Commission entered an order in said cause valuing the used and useful property of complainant at not less than \$15,260,400.00 and fixing a schedule of rates with rules and regulations; that such value so found by the Commission of complainant used and useful property was much less than the value claimed by complainant, in its said amended petition, and the rates so established were much lower than the rates sought to be put into effect by complainant's schedule shown in its amended petition.

6

They admit that the order of said Commission of November 28, 1923 found the value of complainant's used and useful property as of May 31, 1923 and fixed such value as not less than \$15,260,400.00; that said value included additions and betterments added up to May 31, 1923, but did not include any additions and betterments made between May 31, 1923 and November 28, 1923; that evidence was produced at said hearing by complainant for the purpose of showing expenditures made by it after May 31, 1923 and that it was under contract for certain work but as to what amount such evidence showed as having been expended after May 31, 1923 and as to what amount was involved in any contract of complainant then under way was left in doubt and dispute but on information and belief said defendants deny that such amounts were between

\$650,000.00 and \$700,000.00 and on information and belief they say that said amounts were much less than \$650,000.00.

7

Said defendants other than the City of Indianapolis admit that the schedule of rates adopted by the Public Service Commission in its order of November 28, 1923 with the exceptions hereinafter referred to was the schedule of rates in effect at the time complainant's petition and amended petition were filed and at the time said order of November 28, 1923 was made; that the rates fixed by said order of November 28, 1923 were identical with the rates in force prior to said order as such schedule affected flat rate customers of whom complainant had approximately 42,000, but in connection with this admission these defendants say that while said flat rate remained the same the complainant was authorized by the order of November 28, 1923 to meterize its flat rate customers and as said defendants are informed and as they believe *and* therefore aver that such meterization so authorized when accomplished will increase complainant's revenue in excess of that provided for on the basis obtaining prior to November 28, 1923.

They admit in respect to other material changes in rates made by such order of November 28, 1923 that such changes consist of the following:

"(1) A change requiring the City of Indianapolis to pay for what had formerly been "free water" at the meter rate established for other consumers—and this defendant avers in respect to this change on information and belief, that such change will give an increased revenue to this complainant of approximately \$25,000 annually; (2) A change in the price of fire protection from \$60.00 per hydrant per year, to a combination charge of \$12.00 per hydrant, plus a rate per "inch-foot" of mains based on the length and diameter of mains of 6 inches or more now in place or hereafter put in service—in respect to this change this defendant denies, on information and belief that the \$12.00 per annum charge is a repair charge and aver that such charge is a flat-rate charge, and further avers, on information and belief, that the change herein referred to will give the complainant by way of increased revenue between \$70,000 and \$100,000 annually; (3) a change decreasing the minimum monthly fixed charge on $\frac{5}{8}$ inch meters, those commonly used by domestic consumers, and an increased meter charge to large consumers, in respect to such changes this defendant says: (1) That as to $\frac{5}{8}$ inch meter charge, while the minimum charge is slightly decreased, the said order authorizes an additional minimum charge for such meter through which more than one family, office, apartment or place of business is served, at the rate of \$1.00 per month for each additional user, and that such change in said order makes available to the complainant a very greatly increased return annually upon the use of such meter. (2) As to the increased meter charge for the large consumers whether or not such increase will bring the annual return to this complainant only

slightly or whether it will bring it very greatly above the actual cost of pumping, this defendant does not know and has no basis for relief and therefore denies."

8

Said defendants admit that exhibit B and exhibit B2 filed with complainants bill are copies respectively of the order of the Public Service Commission issued November 28, 1923 and of the schedule of rates issued by such commission as a part of said order.

9

Said defendants deny that at the times of the filing of complainants petition and amended petition with the Public Service Commission, the fair value of complainant's property used and useful in its said public service was in excess of \$18,000,000.00 and not being informed as to the value of the betterments and additions made by complainant to its property from the date of its original petition to the date of the commissions order of November 28, 1923, they therefore deny, for the purpose of putting complainant to its proof, that such betterments and additions amount to either \$650,000.00 or \$700,000.00 or any other amount. In respect to complainant's averment that the value of its used and useful property, in serving the public is \$18,000,000 said defendants say that on November 28, 1923 the total fair value of said property was not in excess of \$15,260,400.00.

10

Said defendants admit that the Public Service Commission in its order of November 28, 1923 found that complainant was entitled to a gross income of 7% on the fair value of its used and useful property and that by the term "gross income" such commission meant income such that after paying all operating expense including its taxes on such property and after allowing for depreciation reserve, complainant should receive a 7% return on the fair value of said property.

11

[fol. 93] Said defendants admit, that the Public Service Commission in making its order and schedule of rates complained of estimated that complainant's net annual return under the rates in effect prior to the date of the order of November 28, 1923 would be on its used and useful property \$800,000.00.

12

Said defendants deny that the schedule of rates put into effect by the Public Service Commission in its order of November 28, 1923 will net complainant only 5½% or less on the fair value of its property as of May 31, 1923, when increased by the cost of additions and betterments made on such property up to November 28, 1923; and

said defendants say in respect to the per cent of return under said order the complainant has available to it an increased revenue from its present customers and will have in addition a large increased revenue from new customers and that the total of such increased net revenue will be far in excess of $5\frac{1}{2}\%$ and in fact will constitute a fair return on fair value of complainant's used and useful property; that the increase of customers from year to year in complainant's service has been regular and enormous and that the increased revenue to complainant each year, without addition- cost for furnishings of such service will very greatly increase the total net revenue by complainant; that the exact amount of such increased annual revenue in the future can only be shown after complainant's present rates have been tested by a fair trial of them for an adequate time.

13

Said defendants deny that the schedule of rates established by the Public Service Commission in said order of November 28, 1923 will net only $5\frac{1}{2}\%$ or less on the fair value of complainant's property as of May 31, 1923 when increased by the cost of additions and betterments made to said property up to November 28, 1923; and defendants say relative to the per cent of return under said order of November 28, 1923 that complainant has available to it an increased revenue from its present customers and will have in addition to this a largely increased revenue from new customers, and that the total of such increased net revenue will be much in excess of $5\frac{1}{2}\%$ and will constitute at least a net return of 7% on the fair value of complainant's property used and useful in its public service. That the increase of customers from year to year has been regular and enormous and that the complainant's increased revenue from this source alone, without material additional cost for furnishing said service will greatly increase the total net revenue received by the complainant annually.

14

Said defendants deny that the net return, available to complainant under said order of November 28, 1923 and the rates established by it on the fair value of its used and useful property will be so low as to result if enforced in taking its property without just compensation, without due process of law, or so low as to constitute a denial to complainant of the equal protection of the laws; and denies that the revenue available to complainant under said order and rates will if enforced confiscate its property; and in further contradiction of the averments of complainant these defendants say that under said order of November 28, 1923 the rates and schedules allowed and available to it will afford it an annual net revenue sufficient to amount to a fair return on the fair value of its property used to serve the public. Said defendants say relative to the averments of the complainant in respect to certain hopes of making new additions and betterments in 1925 and 1926 that they are not informed other than

as averred in the complaint, and therefore as to any such hopes these defendants can not make denial, but if such hopes be proper matters for evidence then defendants ask that the complainant be put to the proof.

[fol. 94] Said defendants deny that the spot value of labor and material during the year 1923 when applied in the process of creating one of the evidences of fair value of the property of the complainant owned throughout the year 1923 will show that the fair value of said property was and is in excess of \$22,000,000.00; and said defendants say that the value of said property estimated by spot prices on the highest day of any days in the year 1923, with proper deductions would not be in excess of —. Said defendants deny that the evidence before the Public Service Commission at the hearing resulting in the order of November 28, 1923, establishes a "spot" value of such property during such period of \$22,000,000.00.

16

Said defendants deny that the net earnings of complainant during the past five years under rates established or approved by the Commission did not equal 5% on the fair value of complainants property used and useful in serving the public during said period and defendants say that the net earnings of complainant during such period averaged in excess of 7% on the fair value of its said property.

17

Said defendants aver that the history of complainant during its existence from 1881 to the present time shows that it has been continuously prosperous and has always received for the service it has rendered the public a reasonable return on the fair value of its property devoted to the public. That the fair value of all its property at the present time devoted to the public use is not in excess of \$15,260,100.00.

18

In as much as it appears from the foregoing denials and averments of these defendants constituting the Public Service Commission of Indiana, that the bill of complainant is without basis of fact to support in equity the remedies and relief as are therein sought these defendants ask that such remedies and relief be denied complainant and that said bill be dismissed and for judgment relieving these defendants from costs.

U. S. Lesh, Attorney General; Edward M. White, Assistant Attorney General, Attorneys for Defendants Other than the City of Indianapolis.

[fol. 95]

IN UNITED STATES DISTRICT COURT

JUDGMENT—Oct. 3, 1924

Come again the parties, complainant, defendants, and the intervening defendant, all by their counsel of record; and the court having heretofore heard the evidence, and argument of counsel, oral and written, having been had, and the court at the conclusion of the argument having taken the cause under advisement, now on this 3rd day of October, 1924, upon mature deliberation, pronounces, orally, an opinion sustaining, as proved, the material averments of complainant's bill of complaint, and holding that the valuation of complainant's property, used and useful in its public service water business, of \$15,260,400, as made by the defendant Commission in its order of November 28, 1923, in the Commission's Docket Number 7080, was and is lower than the fair value of such property (on November 28, 1923, and at the time the evidence herein speaks, viz: January 1, 1924) by more than \$3,500,000, and that the fair value of complainant's said property at said time was and is not less than \$19,000,000, and that the water rates imposed in that order, and copied as a part of that order in the Bill, are too low and are confiscatory of complainant's said property.

It is thereupon ordered, adjudged and decreed by the Court that the defendants, Public Service Commission of Indiana, and each of its members, as prayed in the Bill, and the intervening defendant, [fols. 96 & 97] be and they hereby are perpetually enjoined from taking any step to enforce the said order of the defendant Commission and the schedule of rates therein embodied.

All of which is ordered, adjudged and decreed by the Court.

[fol. 98]

IN UNITED STATES DISTRICT COURT

[Title omitted]

OPINION AND EXPLANATORY LETTERS—October 3, 1924

Be it remembered, That in the District Court of the United States for the District of Indiana, at the United States Court House, in the City of Indianapolis, Indiana, on Friday, the 3rd day of October, 1924, at 11:00 o'clock in the forenoon, the following proceedings were had in the above entitled cause, Honorable Ferdinand A. Geiger, Judge, presiding:

The Court: Are all, who desire to be present, present as parties in interest here?

Mr. Baker: So far as we know, your Honor.

The Court: Gentlemen, I have asked you to meet here at this time to the end that I could give expression to such views as I have in this case orally and, by necessity, somewhat informally, at the expense of, perhaps, the conciseness which may ordinarily attend

the preparation of a written opinion. In many ways, that is more satisfactory, especially if the Court makes up its mind to address itself quite exclusively to the parties and their counsel, in view of the matters in interest.

The case comes here for review of a finding made by the Public Utility Commission upon the value of the property of the plaintiff utility that is used and useful in the public service; and the fundam[fol. 99] mental, and, as I believe, the single question is that of value, is that of a consideration of the finding that has been made by the Commission in the light of the principles which the plaintiff seeks to invoke as controlling any tribunal upon the matter of assessment of valuation of property within the meaning of the Fourteenth Amendment of the Constitution of the United States, when that valuation is directed toward the establishment of a rate of return upon such property.

Now, the Court is able, at the outset, to refer, by name at least, with some familiarity, to cases that have become conspicuous in the consideration of questions of this character. Up to a year and a half ago—approximately that time—of course, there had been many rate cases, many cases presenting issues of valuations for the purpose of determining rates, in which elements to be considered by the Courts or by other tribunals in a determination of value, have been considered. But the cases that are popularly referred to as the Missouri Telephone case, the Georgia Power case and the Bluefields case, to which may now be added the Pacific Gas and Electric case, decided in June last, have been pressed upon the courts and upon the tribunals, as indicating a deviation, in this narrow aspect disclosing a basis for consideration of evidence and, obviously, the finding that is here under review is not challenged, broadly speaking, except upon the alleged failure of the respondent Utility Commission to pay heed to these rules of evidence that have been promulgated in these recent cases. I say that is true, broadly speaking. The plaintiff is here, content to rest its case narrowly upon that assertion in [fol. 100] the first instance. Now, cases like the Minnesota rate case dealt with such elements as value, disclosed by evidence of a certain character. The Des Moines Gas Company case made a reference to evidence generally characterized as evidence showing reproduction cost. The cases, many of them, refer to evidence, and the theory of valuation established thereby, such as historical cost, prudent investment value; and, in that situation, we are brought to a consideration, at the outset, of what, if any, change was made in a concrete way by the three or four cases that have been decided in the last year, which, so the Plaintiff here contends, deal with the evidence which is put forward, as exhibiting reproduction costs spot, as having a controlling or dominating influence upon the Court in the determination of questions of this character.

Now, speaking somewhat freely, counsel will recall that during the argument of this case, the Court manifested or, at least tried to manifest, some scepticism respecting the tenability of the plaintiff's insistence that the Court, or any investigating and appraising tribunal, is bound to give what was characterized as controlling consid-

eration to evidence of that character; and, with like freedom, I will say that the skepticism remained with me until I thought I had fairly effectively discharged my duty of studying the cases to which reference was made, and, when I have done that, I have no hesitation in sustaining, generally, the plaintiff's insistence with respect to the modified rule promulgated by these recent cases. Granting that these cases were decided at a time when the Court had, as a matter of history in this particular field of jurisprudence, full cognizance of the probative character and the propriety of considering evidence such as is popularly called evidence of historical cost, evidence of re-[fol. 101] production cost upon a certain price level, evidence of value which is called prudent investment value, and, fourth, evidence of what is strictly and technically reproduction spot depreciated at the time of the inquiry; these cases press upon us sharply the query of why these cases, in their results, disclose the emphasis given to the last named of these four character of evidence; and I am entirely content to accept the characterization made by the Judges in the Sixth Circuit in the so-called *Monroe Gas* case; that the necessary implication from their results is that dominating consideration should be given to evidence of reproduction value and, if that means anything, it means that evidence of reproduction value spot at the time of the inquiry must be considered as evidence of a primarily different character from either of the other three kinds of evidence; that it is legally differentiated and to be differentiated from evidence of historical cost, evidence of reproduction upon certain price levels and evidence of so-called prudent investment value. In other words, reproduction cost value, as we will call it, upon a certain price level—and there is evidence in all of these hearings of that character, and there has been in the trial of this case,—cannot be conceded to be evidence of a more primal character, as is evidence of spot reproduction cost, because, by its very terms, evidence of reproduction cost upon a price level basis for a term of two, five, or ten years is, of itself, evidence that has been arbitrated. Therefore, if I may pursue it a little bit further and take a single, rather concrete, illustration; if we have, before us, evidence which it is said pertinently bears upon the particular query as to the value of a brick wall, and the evidence shows that the brick wall, ten years ago—I mean the ma-[fol. 102] terial and the laying—cost thirty dollars a thousand, that during each of the ten years following there was a variation, but at no time did it exceed forty dollars a thousand, but that during the last year of the ten years the reproduction cost, assuming identity, was sixty dollars a thousand, it is manifest that the original cost, ten years ago, its present reproduction cost and an averaging of everything must produce and bring before us three kinds of evidence.

Now, I said a moment ago that I had become content to accept, in a broad way, the contention made by the plaintiff upon the strength of these Supreme Court cases as to what consideration the Court must give, dominantly, to this question of evidence. I want to add that I think it is quite immaterial whether the formula, as we may call it, is stated in just that way, because that is certainly a minimum of what Judge Denison called the "necessary implications," that some

regard must be given to that form of evidence, that whether we call it "dominating," "controlling," or "due," there thus comes a demand that any finding that shall be made by the tribunal shall therein, in itself, reflect the consideration, or some of it, given to that evidence insofar as that evidence shows a gross disparity between it and other kinds of pertinent evidence. So, if we take the case of the brick wall, and the testing out of this is just as true whether we take ten years price levels or take any other theory of valuation, such as historical cost, if we should state the rule as between the two theories of cost reproduction spot, and historical cost, the Court must give dominant, due or controlling consideration to the evidence dealing with spot [fol. 103] reproduction. If, on the one hand, we have historical cost at thirty dollars, ten years ago, and have a present cost reproduction of sixty dollars, the rule, if it means anything at all, if the Court sought to reach any conclusion, demands that, as a matter of likelihood, no tribunal could rationally fix the value at thirty dollars, because that finding reflects nothing but the historical cost and, upon its very face, ignores the disparity between thirty and sixty dollars. Now, when I have gotten to this point and indicated, as I intended to, that the case is to be disposed of upon the tenable, fundamental contention of the plaintiff, as to how this evidence shall be considered, I am entirely confident that the case, in its ultimate disposition, brings us to an exceedingly narrow compass of evidence, and, as I shall try to make reasonably clear, the case will necessitate, inescapably, the conclusion which I shall reach upon that evidence in such narrow compass, and, if that is tenable, I might say, now, it follows, as a matter of necessity, that evidence on other contentions in the case, particularly all of the contentions made here on behalf of the intervening city, are either wholly eliminated or cannot be retained, to have any probative value in the case which will alter the conclusion. So, I purpose, as briefly as I can, to consider the case as it is before the Court, with the idea, fundamentally, that if the finding, here under review, can, upon any hypothesis of evidence, be sustained, upon a due application of the rules that are pressed upon the Court for application and are accepted by the Court, it is the duty of the Court to attempt to sustain the finding, but that if, upon no hypothesis of the evidence, or of its rational consideration under such rules, it can be sustained, it is, likewise, the duty of the Court [fol. 104] to overthrow the finding; and I purpose to consider the evidence in this case largely by reflecting over against it such matters as have been brought to the attention of the Court and as I consider real evidence, that are found partly in the history of this matter through an earlier proceeding before the respondent Utility Commission, and through the record upon which the particular finding here is based before the Commission. I am entirely mindful of the fact that, whatever the Court may say about an earlier finding, which has been referred to here as the finding in Cause No. 6613, that finding is not before the Court for consideration, either to have it sustained or to have it overthrown, but, in view of the relationship between the two proceedings, and the references made in the latter to

the former, I feel entirely at liberty in referring to the earlier proceeding, as well as to the later one, as having an illuminating, to me, and an entirely persuasive effect upon the result to be reached here which, as I have said, is to be reached through a consideration of evidence. Of course, I have indicated somewhat—I trust I have, with sufficient clearness,—that when the consideration of the case is gauged in the manner in which I have indicated, not only the questions that are discussed here by the intervening city, but questions such as usually come up in a case of this kind as to the proper method of valuation, are all subordinated. The rather interesting question of whether reproduction cost is a logical or consistent method, either legally or economically, for determining value, whether the prudent investment method is the logical and consistent method, or whether the historical cost is the logical and consistent method, are all eliminated, as having no bearing that will dominate [fol. 105] the disposition of this case, howsoever interesting they may be outside of a law suit within the compass that this one finds itself

Now, we come to the matter of value as it is exhibited in its treatment by the respondent Utility Commission in the opinion and order and the finding made in January, 1923, and known here as Order No. 6613. I am considering this, regardless of what discussion there may be as to what the original purpose of that hearing was. The record, on its face, shows the purpose of the Commission to make an investigation and to make a finding, which may be available for a number of purposes, under the law. That finding is exhibited in the figures \$16,455,000, upon a hearing wherein the Commission had before it what I have designated as these various classes of evidence. It had before it evidence showing price levels at various periods, beginning, as I recall without definite reference to the record, as early as 1910 or '11, and projected through ten years, each year, to 1913. There were two or three classes of evidence based upon varying ten-year reproduction costs. It had before it evidence of shorter periods, and had before it evidence of spot. That was true at the hearing held in the fall of 1922, which culminated in the Order of January, 1923. I assume that the Commission, before it, either in a general or in a specific way, evidence dealing with historical costs. It had before it a considerable amount of evidence, which anyone would concede, were the theory to be considered, to be pertinent as bearing upon some other theory of valuation such as prudent investment. The Commission, as shown by the face of its report, made up its finding of \$16,455,000, by the utilization of four distinct elements: the [fol. 106] first, a finding that reproduction cost on a ten year price level ending either October or later in 1922—ending December 31, 1922—was \$11,689,000. That is the first element of value—the first item, I will say; and, by reference to the record, it appears, that that figure—I was going to say almost within a dollar—the fact is within seventy-eight dollars, coincides with the smallest estimate or appraisal made by anybody, at that time, of reproduction cost made upon a ten-year price level; that was accepted by the Commission as its first item, in trying to aggregate values, manifestly. So it con-

ceded, as shown by its report, and conceived the necessity of adding thereto certain other elements or ingredients of value to be taken into consideration in any theory of valuation; that is to say, current working capital, good will, going value, or whatever it is called, and water rights, whereby the Commission reached this figure of \$16,455,000.

Now, for the time being, it will suffice to call attention to the fact that at that time, when the Commission adopted the figure of \$14,689,000, reproduction cost on a ten-year price level, it had before it numberless higher appraisals, evidence showing higher value not only upon the same term of price levels, but upon shorter terms of price levels, and had before it, practically without controversy at that time, reproduction spot evidence, the minimum of which, unimpeached, was approximately \$19,000,000. There is reflected in that record the very same thing that appears here in the evidence, a considerable variation upon the appraisals of spot reproduction. The variation in the 1922 report, as I recall, speaking generally, was something between eighteen or eighteen and a half of twenty-one or twenty-two million dollars, so that if the Court were charged with the [fol. 107] problem of now interpreting the earlier finding of the Commission, in the light of the rules promulgated in these later Supreme Court cases, we would have the situation of the Court making a finding upon this one class of evidence—\$14,689,000, as against evidence of approximately \$19,000,000, spot reproduction, which, by the very face if not by the inference of the report, was ignored, so far as it showed a disparity of approximately four to five million dollars. Now, it will suffice for the purpose as comment upon that record.

Eleven months later, upon a subsequent hearing, this whole matter was opened up before the Commission, and there resulted a finding, at that time, bearing in mind the previous figure of \$16,455,000, there resulted a finding, which is now here for review, in the sum of \$15,260,000, approximately \$1,199,000 less than the finding made less than a year before. That is the finding that is here challenged and the Court will seek briefly to test out that finding in the light of what has just been said about the earlier finding. A reference to the report of the Commission upon the earlier cause, 6613, shows that the Commission apparently, at that time, had before it the contentions of various parties as to what elements should be taken into consideration in determining value, and I will refer to what the Commission said upon that subject on page 98 of the printed report, which is here in evidence. This follows the preliminary announcement of the Commission that it would find a valuation of approximately the amount indicated \$16,455,000. The Commission then says, "In fixing this value, the Commission is bound to and has taken into consideration, so far as the evidence discloses such facts, cost of reproducing the property at the time of the inquiry," which [fol. 108] I assume to mean spot reproduction cost. So, to start with, the Commission announced that the Commission considered that evidence, which, as I indicated just a moment ago, is four to five million dollars higher than the particular evidence selected by the Commission as showing value upon a ten-year price level; but the

Commission proceeds, "The probable cost of reproducing it within the next few years; third, the cost of reproducing it upon the basis of average prices that have existed in the past; fourth, the trend of prices in the past and probable trend in the future; fifth, original cost of the property; sixth, prudent investment in the property; seventh, the amount of working capital necessary in the conduct of the business; eighth, its going value, its water rights; ninth, its operating efficiency, tenth, its standard of maintenance; eleventh, kind and character of its service; twelfth, business it has attached and in prospect; thirteenth, its plans for the future; fourteenth, its ability to care for the growth of the city and the needs of its patrons; fifteenth, location of the property and the character of the city; sixteenth, its relations with the public and with the city; seventeenth, reasonableness of its rates; eighteenth, its present and probable future earning power and, nineteenth, any other facts that may be relevant."

Now, none of us would deny to the Commission, at least, an effort to give assurance that it had considered everything that was to be considered. But, of course, the serious phase of it is that, notwithstanding those protestations and those assurances, the face of the finding shows, without possibility of cavil, without possibility of even suspecting otherwise, that the Commission, although it said [fol. 109] it considered all of these matters, in fact, found in accordance with the rather precise elements, or four items, only. That is to say, taking reproduction cost on a ten-year price level, as exhibiting one kind of evidence, the face of the report, as I indicated a moment ago, shows that while the Commission may, as it says, have considered spot reproduction costs of nearly five million dollars higher, its consideration has lead it to ignore it.

Now we come—and after this discussion, I will try to be even more brief than I thought I would be—we come to the later report which is here under review now and, if we are justified at all in paying any heed to the matters that I have discussed, of course, the first query that comes up is how the Commission ever was able to find a value even lower than the one of a year before. The Commission, in the later report, refers to the prior schedules under the evidence of appraisals and values upon the different theories of original cost reproduction upon terms of price levels and spot, and, then, without segregating items of value, reaches this conclusion of a lower value by a million and a quarter, or more.

Now, the Court is required, as it seems to me, to apply the principles that are to be discussed and to be accepted, as I indicated in my preliminary remarks, as to what the Supreme Court meant by what it said in these three cases. Is it possible—and when I ask that question, I assume that the answer will take cognizance of the proper attitude of wanting to proceed rationally—is it possible to say that, upon the record which we have here, against which I have reflected the two reports, and this evidence here is, generally speaking, of the [fol. 110] same character of evidence that was before the Commission, upon each of the hearings, namely, in exhibiting different kinds of evidence and the different variations between witnesses who

seek to substantiate one level or one theory rather than the other,—there is that same consistent variation, if I may use that sort of a term,—is it possible or can the Court now rationally say that the Commission here and, in order to test it out, include the Court here, can, by any sort of examination of the evidence, reach a conclusion that upon unimpeached evidence showing a minimum of spot reproduction values at \$19,000,000, it will still find reasonable value at \$15,260,000? Now, it is perfectly evident, upon an examination of these two reports, that if the Commission, doing what it did upon the earlier hearing, was justified, upon accepting the ten-year price level which it believed, at that time, it was justified in accepting and adding thereto going value and so forth, and could thus find the value to be \$16,455,000, at the outset, in view of the later period, and scarcely any greater variation in the price levels, there ought to be some answer, and the query at once arises, "How can the Commission possibly reach a valuation of fifteen million, two hundred and some odd thousand?" and the answer cannot be found except conjecturally, as I see it, in one of two ways: either the Commission cut down, beyond any limit that was possible upon the evidence, the valuation, as indicated upon a ten-year price level, or it substantially ignored every other element of value, such as going concern value. The two cannot be reconciled in any other way. Now, that brings us to the evidence in this case and, as I said, can the Commission or can [fol. 111] this Court now, say that there can be a rational reconciliation between unimpeached evidence of \$19,000,000, as a minimum cost reproduction value spot, and any other price level, particularly one showing a disparity of five million dollars—four to five? I think that answers the question that is put up to the Court in this case.

Now, I think it is due to the parties, if I have made myself fairly clear, to make a reference to some of the things the Court here is concerned with, either confirming or impeaching the finding here, and, if it does the latter, it is justified in doing it upon purely negative grounds, namely, that the finding does not reflect certain things which must be considered and which, if considered, must bring about a finding of a larger amount. Now, some of the contentions of the city here, are entirely eliminated. That there is a field, here, within which credit to be given to evidence may be discussed, goes without saying; and, illustratively, I will take the evidence that is presented here on behalf of the plaintiff, showing spot reproduction values of approximately \$25,000,000. That figure, of course, includes certain elements of value to be considered in any event and, by way of excluding those elements, I will put the figure at approximately \$23,000,000. Yet, the defendant Commission, through its own witnesses, through its engineers, furnishes, as a minimum figure to be considered, exhibiting spot reproduction values at the time of the inquiry, approximately \$19,000,000. Now, I could say, if the problem were before the Court to consider these ranges of the evidence bearing upon that one kind of reproduction value, that there is a field of arbitration between them. The Court might well say, "Naturally, the Petitioner, here, is a utility. Complainant has the

[fol. 112] same zeal that other litigants have; that is found in its witnesses. They are apt to exaggerate, to give the higher valuation." Of course, if we consider that, the converse is true, that on behalf of the respondents there may be a temptation for its witnesses to minimize, and it leaves us where the Court can, without hesitation, say that \$19,000,000, not only in this case, but in each of the hearings that have been had before the Commission, reflects, unimpeached, the reproduction value. Now, can the Court, as I said awhile ago, say that there can be reconciled rationally, as judicial or legislative duty is discharged, in a finding which shows that the disparity between the two kinds of evidence was considered solely in such a way as to ignore it? That, in my judgment, is the infirmity of this case, and it is the one thing that overthrows this finding.

I am not confronted with the problem of fixing a valuation within the range of dispute upon spot reproduction. I say I am not confronted with that problem, because the complainant comes into this Court and offers to accept \$19,000,000, as a fair basis of valuation, even though, as it says, and I think has reason to say and could support it, it could, upon the record, sustain a higher valuation. That will be the finding, and it follows, I think without dispute—without the possibility of serious dispute,—that, that being so, the rates or the tariffs or charges that have been promulgated by the respondent Commission, no matter what figure of measuring it, what rate of measuring it, we adopt, providing it be above five per cent., that schedule will not satisfy the constitutional requirements of the plaintiff in this case, and the plaintiff may take a decree in accord—[fol. 113] ance with what I have said.

Whereupon, the hearing was concluded.

The foregoing may be filed.

F. A. Geiger, Dist. Judge.

[fol. 114]

Baker & Daniels

Albert Baker, J. J. Daniels

W. W. Seagle

Law Offices, 810-15 Fletcher Trust Building, Indianapolis, Ind.

October 16, 1924.

Indianapolis Water Company v. McCardle, et al., No. 750, in Equity,
U. S. District Court, at Indianapolis

Honorable Ferdinand A. Geiger, U. S. District Judge, Milwaukee,
Wisconsin.

DEAR JUDGE GEIGER: Your letter to me of the 13th inst., enclosing a rewritten draft of the transcript of your oral opinion pronounced in this case on the 3d inst., was duly received.

The changes you made were, as you say in the letter, almost wholly grammatical or rhetorical, "and the correction of obvious errors of the reporter who took down the opinion."

On pages 9 and 10 of the final draft you, in lead pencil, made a query after the figures "\$14,000,689," evidently intending that those figures should be verified by reference to the Indiana Public Service Commission's order of January 1923, from which they were taken. By reference to our copy of that order I find that the figures used by the Commission were "\$14,689,000." Therefore you will see that the error was one merely of transposition. I therefore changed the figures in your opinion to read, wherever they occur, on pages 9 and 10, "\$14,689,000."

As directed by you, I handed your letter and your redraft of the opinion to the Attorney General, with the request that he and the counsel for the City of Indianapolis go over it and state whether they care to criticise "the changes or corrections" which you had [fol. 115] made. They have returned your letter and the redraft of the opinion to me, with the statement that they have no objection to any of such changes or corrections, and that they approve the change of figures on pages 9 and 10, made by me as above indicated.

Therefore, following your direction, I am handing to the Clerk of the Court for filing your redraft of the opinion, the original of your letter of the 13th inst. to me, and a carbon copy of this letter, and I am sending a carbon copy of this letter to the Attorney General for his information and the information of the counsel for the other defendants.

Yours truly, Albert Baker.

Copy.

[fols. 116 & 117] Chambers of the U. S. District Judge, Eastern District of Wisconsin, Milwaukee, Wis.

October 13, 1924.

Mr. Albert Baker, 810-815 Fletcher Trust Building, Indianapolis, Indiana.

DEAR MR. BAKER: Your letter of the 8th enclosing transcript of my oral remarks in disposing of the Indianapolis Water Company case was received; and I have examined it and caused it to be rewritten. The changes are almost wholly grammatical or rhetorical. Certain errors of the reporter are noted:

- (1) On page 7 of the copy sent by you the words "mere formal" are changed to "more primal."
- (2) On page 19 the word "provisions" is changed to my recollection of "protestations."
- (3) On page 20 the word "price" is changed, on my recollection, to "prior."
- (4) On page 25 the words "exactly that," on my recollection to "rationally, as."

Other typographical and grammatical corrections are carried into the copy which I enclose herewith and which may be filed as the transcript in the case.

I will thank you to submit both the copy which you sent to me and the enclosed together with this letter to counsel for the Utility and the City in the absence of any criticism upon the changes or corrections, will you please file the copy with the Clerk.

Very truly yours, F. A. Geiger, District Judge.

Encls.

[fol. 118] IN UNITED STATES DISTRICT COURT

[Title omitted]

NOTICE OF CONDENSED STATEMENT OF THE EVIDENCE, INCLUDING EXHIBITS, IN THE ABOVE-ENTITLED CAUSE—Filed Dec. 2, 1924

To Indianapolis Water Company, Complainant, and Baker and Daniels, Solicitors for Complainant- in the above-entitled cause:

You are hereby notified that on the 2nd day of December, 1924, the defendants in the above entitled cause, being about to pray an appeal, lodged in the office of and with the Clerk of the District Court of the United States for the District of Indiana, at Indianapolis, a condensed statement of the evidence, including exhibits, [fols. 119 & 120] in the above entitled cause; and that said defendants will, on the 19th day of December, 1924, or as soon thereafter as the parties may be heard, in said District Court room in the City of Indianapolis, Indiana, ask the Honorable Ferdinand A. Geiger, trial judge in said cause, to approve said statement of evidence, including exhibits.

John W. McCardle, Maurice Douglass, Oscar Ratts, Frank Wampler, and Samuel Artman, as Members of the Public Service Commission of Indiana, by U. S. Lesh, Attorney General; Edward M. White, Asst. Atty. Gen., Their Solicitors. City of Indianapolis, by Taylor E. Groninger, Its Solicitor.

The undersigned hereby acknowledge receipt of copy of the above notice this 2nd day of December, 1924, and waive further notice.
Baker & Daniels, Solicitors for Complainant.

[fol. 121] IN UNITED STATES DISTRICT COURT

[Title omitted]

PETITION FOR APPEAL—Filed Dec. 19, 1924

To the Honorable Ferdinand A. Geiger, District Judge:

The above named, John W. McCardle, Maurice Douglass, Oscar Ratts, Frank Wampler and Samuel Artman, as members of the

Public Service Commission of Indiana, defendants, appellants, and City of Indianapolis, intervening defendant, appellant, feeling aggrieved by the decree rendered and entered in the above entitled cause on the 3rd day of October, A. D. 1924, do hereby appeal from said decree to the Supreme Court of the United States for the reasons set forth in the assignment of errors filed herewith, and they pray that their appeal be allowed and that citation be issued as provided by law, and that a transcript of the record and proceedings and papers upon which said decree was based, duly authenticated, be sent to the Supreme Court of the United States, sitting at Washington, D. C., under the rules of such court in such cases made and provided.

[fol. 122] And your petitioners further pray that the proper order relating to the required security to be required of them be made.

John W. McCardle, Maurice Douglass, Oscar Ratts, Frank Wampler, and Samuel Artman, as Members of the Public Service Commission of Indiana, Defendants, Appellants, by U. S. Lesh, Atty. Gen.; Edward M. White, Asst. Atty. Gen., Their Solicitors. City of Indianapolis, Intervening Defendant, Appellant, by James M. Ogden, Corporation Counsel City of Indianapolis; Clair McTurnan, Taylor E. Groninger, Its Solicitors.

[fol. 123] IN UNITED STATES DISTRICT COURT

[Title omitted]

ASSIGNMENT OF ERRORS—Filed Dec. 19, 1924

Now come the defendants, appellants, in the above entitled cause and file the following assignment of errors, upon which they will rely upon their prosecution of the appeal in the above entitled cause from the decree made by this Honorable Court on the 3rd day of October, 1924:

I

The said court erred in sustaining the bill, adjudging the Commission rate order number 7080 unconstitutional and enjoining the enforcement of the same, said order not being unreasonable, confiscatory and unconstitutional or in violation of the constitution of the United States or that of the State of Indiana, as a taking of complainant's property without compensation.

[fol. 124]

II

Said court erred in its decision and decree in reference to the valuation of the utility's property for the purpose of the inquiry, in the following particulars:

(a) In adopting reproduction cost new depreciated on a basis of spot prices, as of January 1, 1924, as the measure of the fair value of the property.

(b) In adopting reproduction cost depreciated (spot) as a dominant and controlling measure of fair value.

(c) In excluding from consideration: Reproduction cost appraisals on bases of price for various periods of years; original cost; tax valuation; capitalization; book value; financial history; earnings; operating expenses; valuation fixed by the Commission in 1917, which with subsequent additions and betterments at cost was accepted by the company, each year after 1917 and until 1923, as a fair value of the utility property.

(d) In adopting as the measure of fair value a reproduction cost spot estimate, which included obsolete, non-useful and non-operative property; 15 per cent structural overhead on all property, including land; reinvested depreciation reserve money; cost of accumulating right of way of canal built by the State; cost of reproduction of canal built by the State long prior to the existence of the water company; only a small deduction for accrued depreciation, a large amount having been collected annually for depreciation by the company and much of the property being very old; water rights, though none had been purchased by the company aside from the land purchase; materials, supplies and working cash, when in fact the company's advance collection of water rates more than supplied in advance the amount necessary for these items; prices for construction [fol. 125] materials on the basis of spot prices for individual items and not on basis of bulk purchase at negotiated prices; overheads and capital charges, which on the books of the company had been charged in whole or in part to operating expenses and collected from the consumers; hypothetical costs or expenses which might occur in some cases, but which, if the experience of the company in production had been repeated in reproduction, would not be incurred; expenses attributable to a theoretical reproduction of the entire plant at one time, which did not occur in the original piecemeal construction of the water company's plant and would not again occur in building and developing anew the plant and business.

(e) The valuation adopted is consequently very excessive in that it exceeds original cost by \$11,000,000; exceeds the valuation of order number 1,400, plus subsequent additions and betterments at cost to January 1, 1924, by \$7,197,749; exceeds capitalization by \$5,769,000; exceeds book value by \$5,778,000; exceeds reproduction cost on a basis of prices for a period of ten years, 1911 to 1920—when consideration is properly given to accrued depreciation and to the possibilities of advantageous bulk material purchase by contract and to the elimination of hypothetical and non-existing intangible charges—by \$8,060,158; exceeds the tax value verified and submitted by the water company to the Indiana State Tax Board for the year 1923 by \$8,146,700; exceeds the tax value verified and submitted by the water company to the Indiana State Tax Board for the year 1924 by \$6,062,900; and exceeds the tax value as found by the Indiana State Tax Board in 1923, for taxation purposes, by \$6,914,300.

[fol. 126]

III

The court erred in sustaining the motion of the complainant water company to strike out evidence introduced by Walter S. Bemis, witness called on behalf of the City of Indianapolis, which evidence, in substance is: That the canal property in question, from Helton Place to Washington Street Station, together with land equipment and buildings at the station, are used and useful only to develop hydraulic power at the Washington Street Station, except for some incidental storage use of the pump room. The 1911 to 1920 reproduction cost new of these items, less depreciation, is \$1,396,170.54, as shown by Carter's ten-year average appraisal. This value is too excessive to require the consumers to pay a return on it, since its only use is for hydraulic power which should be substituted by a steam-pumping equipment. Considering, the cost of a steam-pumping equipment as a substitute for the hydraulic power, the increase of cost of operation in steam-pumping and the cutting down of taxes by the substitution, the gross results of substitution gives a total capitalized saving of \$1,073,639.63 on a basis of cost new of the hydraulic power, or \$785,013.11 on a basis of cost new of the hydraulic power, less depreciation.

Wherefore, the appellants pray that said decree be reversed and that said District Court for the District of Indiana be ordered to enter a decree reversing the decision of the lower court in said cause.

John W. McCardle, Maurice Douglass, Oscar Ratts, Frank Wampler, and Samuel Artman, as Members of the Public Service Commission of Indiana, Defendants, Appellants, by U. S. Lesh, Attorney Gen.; Edward M. White, Asst., Their [fol. 127] Solicitors. City of Indianapolis, Intervening Defendant, Appellant, by James M. Ogden, Clair McTurnan, Taylor E. Groninger, Its Solicitors.

[fol. 128]

IN UNITED STATES DISTRICT COURT

ORDER ALLOWING APPEAL—Dec. 19, 1924

And thereupon it is ordered that the prayer of said petition for appeal be, and the same is hereby allowed upon the filing of an appeal bond in the sum of One Thousand Dollars (\$1,000.00) with good and sufficient surety thereon, to be approved by the Court.

And the defendants now file their appeal bond in the sum of One Thousand Dollars (\$1,000.00) with Samuel Artman and James M. Ogden as sureties thereon, which bond is approved by the Court, and is in the words and figures following, to-wit:

[fols. 129-132] BOND ON APPEAL FOR \$1,000—Approved and filed Dec. 19, 1924; omitted in printing

[fols. 133-136] CITATION -- In usual form, showing service on Baker & Daniels; filed Dec. 19, 1924; omitted in printing

[fol. 1] IN UNITED STATES DISTRICT COURT

[Title omitted]

Condensed Statement of the Evidence—Filed Dec. 19, 1924

APPEARANCES OF COUNSEL

Appearances.

For Complainant, William E. McInerny, Baker & Daniels, Fred B. Johnson.

For Defendant Commissioners, U. S. Lesh, Attorney General of State of Indiana; Edward W. White, Deputy Attorney General of State of Indiana.

For Defendant City of Indianapolis, Taylor E. Groninger, Corporation Counsel; Ketcham, McTurnan & Higgins.

[fol. 2] WILLIAM J. HAGENAH, a witness called on behalf of complainant, being first duly sworn, testified as follows:

Direct examination.

Questions by William A. McInerny, Esq.

I am a member of the firm of Hagenah & Erickson, public utility analysts and engineers, of Chicago, engaged in appraisal and valuation of public utilities for over twenty years; a graduate of the University of Wisconsin. After graduation I was assigned to the investigation of railroad utilities in the State of Wisconsin and subsequently was appointed Chief Statistician of the Bureau of Labor; thereafter Deputy Commissioner of Labor and Industrial Statistics, and Chief Statistician and Financial Expert to the Railroad Commission of Wisconsin.

I have made a study and appraisal of the Chicago Telephone Company for the City of Chicago and the People's Gas, Light and Coke Company. Since 1911 I have been engaged in making appraisals, rate studies and cost analyses of public utility properties. I have been engaged by a number of public service commissions, cities, and by banks and trust companies in matters involving the financing and reorganization of public utility properties, and have acted as arbitrator between public utilities and labor organizations. [fol. 3] I have rendered professional service in the United States, Canada and foreign countries. The total value of public utility properties I have appraised exceeds \$2,000,000,000.

I made a study of the Indianapolis Water Company with reference to the development of an inventory and appraisalment on a reproduction less depreciation method, and complainant's Exhibit 1, based on an inventory as of December 31, 1923, and the level of labor and material prices averaging a three-year period ending December 31, 1923 is the result of that study.

The inventory of the property was originally made April 30, 1922, and was checked by representatives from the witness's office, representatives of the Indiana Public Service Commission and employees of the Indianapolis Water Company and, as finally accepted, was practically an agreed statement of the inventory of the property as of the date in question. The inventory was brought down to December 31, 1923, by statements supplied from the company's books, which statements were verified through inspection of the property in the field, so that Exhibit 1 represents a correct inventory as of December 31, 1923.

The property was inspected in 1922 and a detailed study made of each major item of property and of all classes of property above ground capable of physical inspection to determine depreciation, and such inspection was used in making the depreciation figures. [fol. 4] The underground distribution system was examined where the street in a large number of instances was opened and the pipe exposed. The age of the pipe was considered and an estimate of the probable future life of the property was made, based on the conditions which we observed.

No inspection of the property was made subsequent to 1922, but the property because of maintenance and additions is assumed to be substantially the same per cent condition as it was in 1922. Deductions were made from so-called present value of property to cover depreciation in order to maintain the present value on the per cent condition basis determined in 1922. Some further deduction was made because the property acquired since 1922 has been operated for a period of about twenty months, but the deduction was affected by the fact that there had been subsequent acquisition of property since the inventory of 1922. The unit costs covering labor and material determined in Indianapolis were applied to the inventory. Access was had to the company's construction records, to its purchase record of supplies and invoices, and conference was had with material and supply men in the City of Indianapolis and also with contractors employing labor of the character required for the reconstruction of the property. The unit costs reflected an arithmetical averaging of the open market price for labor and material for such construction in Indianapolis. The unit costs did not include indirect costs or overhead charges.

[fol. 5] The most important overhead charges were engineering and superintendence during construction, interest, taxes and insurance on property during construction, and legal and organization expenses, casualties and contingencies and an allowance for possible omissions in the inventory. For these a general overhead allowance of 15% was added and included all items of indirect or overhead

construction character. In arriving at this 15% allowance I was governed by the practice of the company and the overhead costs which it incurred, by the evidence of construction costs of other water utility properties of substantially the same size and character as the company's, and also by decisions of public service commissions covering the reasonableness of allowance for overhead charges. The 15% thus found was added to the specific construction cost of both the reproduction cost item and the reproduction cost less existing depreciation.

An appraisal was not made of the land, but the opinions of real estate experts were accepted as reflecting the fair market value of the land.

No study was made to determine what part of the property, if any, was not at present used and useful.

Working capital is included as an item in Exhibit 1 and represents average investment in operating materials and supplies, and the average cash requirements for efficient and economic operation. [fol. 6] The monthly balance sheets of the company showing its actual investments in operating materials and supplies and the amount of cash used in the business, and provisions which commissions have made in passing on a reasonable requirement for working capital for companies of this character, were taken into consideration in determining the amount of working cash capital to be allowed. The estimate of \$235,000 is inclusive of both materials and supplies and cash items.

The valuation of the property in Exhibit 1 contains the item of water rights, based on the company's right to take water from White River for the supply of the City of Indianapolis. Wholesome river water is delivered by canal for the city's use on an economic basis. In taking water out of White River and out of Fall Creek, the company has an overflow right of large areas. The right to overflow the land is not included in Exhibit 1 as an item under the computation for unit costs. The public service commission's appraisal of the value of the overflow land was \$100 to \$150 an acre. There are 2,000 acres of land subject to overflow. The company owns rights in connection with the dam on White River at Noblesville and in connection with Schofield Mill property in Indianapolis.

[fol. 7] The fair value of water rights is difficult to determine. The cost of acquisition of such at this time would be very large and burdensome. In arriving at my opinion as to the value of water rights, I pro-rate the benefits or values between the corporation and the public, which is the practice of courts and commissions, and while I am unable to make any statement as to the separate items or the total of them, I think that, considering the worth of the large supply of water to the city, the value is approximately \$500,000, much of which is for flowage rights over land not otherwise in the inventory.

In my appraisal I accept going concern value or development cost in its broadest and most inclusive sense. It is a matter of judgment, and for the definition I rely on the Des Moines Gas case and have endeavored in my appraisal of the going value to give consideration

to all factors involved. Going value is further defined as, in part, cost of securing and developing the business; obtaining customers; investigating the credit condition of customers. The time involved before business can be developed to that degree where it will yield the measure of return deemed reasonable in law is an element in determining going value. The time involved in the development of the business, in my experience, is from two to five years. Due consideration in arriving at my estimate is given to interest, depreciation, taxes and certain items of general expense which would go on from the day that service was first supplied undiminished, because of the [fol. 8] light temporary load the company was furnishing.

I find that interest at 6% for two years on the capital required to build the plant would be \$1,250,000, treating the value of the property as \$21,000,000 as of December 31, 1923. Taxes and depreciation during a development period of two years would bring the total development cost to approximately \$2,000,000. I take into consideration the necessity for rearrangement of original plans for construction; alterations, new conditions, additions and reconstruction. I likewise take into consideration the fact that the company has approximately 56,000 customers and that students of public utility service recognize a cost of \$20 to \$30 to secure a customer.

The organization of the operating staff and its personnel and the harmonizing of operation is considered, as is the experience of other public utilities based on available records and classified accounts of such utilities, the experience of such utilities being that the cost of such development ranged from approximately 8% to as high as 20%. Studies of decisions of courts and public service commissions indicate that the conclusion of such bodies ranged from 5% or 6% to 20% for development costs. My personal opinion is that the development cost or going concern value, from the standpoint of determining the reproduction cost of the property, is approximately [fol. 9] \$2,000,000 as of December 31, 1923.

On page 3 of Exhibit 1 a summary of the appraisal is set out, showing the cost of reproduction of the physical property as of the inventory date, the working capital, water rights and going concern value in the sum of \$25,417,204, and the reproduction cost new less existing depreciation, or so-called present value, is \$24,350,358. Included in that total are: Working capital \$235,000, water rights \$500,000 and going concern value \$2,000,000. The reproduction cost of physical property alone is \$22,682,204 and the so-called present value \$21,625,358. The average prices for the three years, from 1921 to 1923 inclusive, are used because it would take approximately that time to plan, build and deliver the plant ready for service. It is assumed that one measure of the value of the property should be the level of the labor and material prices which contracting agencies would have to pay in Indianapolis if they built such property over such period of time, assuming some contracts on high points and some on low. Asked by the Court: "Would you adhere to that even if the facts showed a greater variation?" "Yes, sir; I take the average in this exhibit alone. I would not consider this exhibit alone as evidence of that value." It would take about three

years to build a plant, and the prices used in the calculation of Exhibit 1 were the prices that prevailed during that period. The three [fol. 10] years used in the appraisal would reflect war time cost and does not represent a lower level of prices. The lower level is reached by appraisals on a five year and a ten year average. These appraisals are presented by summary.

Complainant's Exhibit 2 shows in comparative form the appraisal results of the water company's property as of December 31, 1923 using different price levels. The first basis is the same as that set forth in Exhibit 1. The next appraisal base shows reproduction cost on the average level of prices for the five year period ending December 31, 1923. That basis shows the total physical property of reproduction \$23,769,443 and the reproduction cost less depreciation of the physical property only \$22,652,799. To these results the same items for working capital, water rights, going concern value as were used in Exhibit 1 were added, making a total on the five year basis of \$26,504,443 and the present value \$25,387,799. This basis includes higher prices than Exhibit 1.

The third basis of Exhibit 2 reflects average level of labor and material prices for the ten-year period ending December 31, 1923. The reproduction cost for physical property alone is \$20,564,739; present value \$19,624,354. Adding to this working capital, water rights and going concern value the total for reproduction cost now is \$23,299,739; present value \$22,359,354.

[fol. 11] The fourth appraisal base in Exhibit 2 shows reproduction cost new on the level of labor and material prices during the last days of 1923. The reproduction cost for physical property on this basis is \$23,786,615; present value of physical property alone \$22,649,026. Adding the working capital, water rights and going concern value the reproduction cost is \$26,521,615; present value \$25,404,026.

From 1921 to 1923 a cycle of changes in prices occurred. The prices of 1921 were higher than in 1922, and those in 1923 affecting water property were practically the same as in 1921.

A study of the investment cost of the property is presented in complainant's Exhibit 3. This exhibit shows a total cost of the present operating property to the owners and also the cost of the physical property, including the appreciation and valuation of land as of the inventory date, and the item of working capital and sacrifices which the owners of the property have suffered in making the physical property responsive to the public service. The total cost of the property to the inventory date is \$17,194,156. The table in Exhibit 3 is compiled from the company's books with certain adjustments because of items not reflected fully in the company's books. According to the balance sheet of the company, its property and plant account on December 31, 1923, stood at \$13,222,285. In the Exhibit 3, this [fol. 12] construction item and the details over a period of fifty years have been analyzed and improper items excluded. On the company's books there has been charged to construction cost certain items of overhead charges covering interest, engineering, administrative expenses, injuries and damages, and certain other items included

in the allowance of 15% as described in Exhibit 1 and which the witness had fixed as his opinion of proper overhead charges. The total of these items was \$878,335. An analysis showed that certain construction costs had not found their way into the plant account, the reasonable cost of overhead being approximately 15%.

Complainant's Exhibit 3 makes an adjustment in respect to overhead charges so as to reflect 15% on the labor and material items which appear on the company's books. In the exhibit \$878,335, attributed on the books to overhead charges, was deducted from the book total in the property and plant account, and in place of it 15% was added.

The company's books show a number of arbitrary adjustments for the purpose of writing up the value to reflect appreciation determined by an appraisal. There had been charged on the books of the company items of the property and plant account, which I believe under the present classification of property accounts had no place there. The aggregate of such arbitrary write-ups, including the \$878,335 as overhead charges shown on the books of the company, is \$4,056, [fol. 13] 000. Deducting that from the figure in the balance sheet gives a specific construction cost of \$9,165,461, and the 15% or \$1,374,819 is added to that, Exhibit 3, to cover all overhead expenses. The specific construction of \$9,165,461 includes cost of the company's land. The cost of the land was \$818,079. The appraisal of the land on the inventory date was \$3,014,627. The appreciation in the land is \$2,196,548, making a total expenditure for physical item \$12,736,828 when the appreciation in land to the inventory date is included. As a part of the cost, Exhibit No. 3, there is added \$235,000 as an allowance for working capital.

The history of the company shows a deficiency in earning of \$1,222,328 after taking care of operating expenses and necessary charges, including depreciation, and assuming the right to a reasonable return of 7½% on the actual cost of the property, that is, from 1870 down to date. I included that as a part of the cost of the property as a whole as of the inventory date, making a total of \$17,194,456.

Complainant's Exhibit No. 4 is a study of development costs of the property over its entire history dating from 1870 to the close of 1923. The table, in that exhibit, consists of 18 columns. The first shows the additions to the property and plant account in respect to which certain adjustments have been made. These are reflected in the second column and are taken from the company's books. The third [fol. 14] column is the difference between the first and second. The fourth column contains an added allowance for overhead charges at 15%, the company's provision for overhead charges being excluded in the preceding column. The fifth shows annual appreciation in land spread over the history of the company. The next two columns show the average property for the year, to which is added a relative allowance for working capital, \$235,000. The same relative or percentage allowance for working capital is made for each of the earlier years. The depreciation is determined by allowing therefor eight-tenths of 1% of the cost of the plant, as determined by the Commission of Indiana.

Column 17 of Exhibit No. 4 states the requirement on the basis of a 7½% return over the history of the company computed on the cost of its physical plant, including overhead charges, working capital and appreciation of land. Column 18 of that exhibit shows a deficit in such earning during the history of the company of \$6,004,091. From this amount is deducted depreciation, full depreciation having been included in the operating expenses. Such deduction results in the figure of \$4,222,328, the last item of Exhibit No. 4. The deficits shown in the exhibit are not augmented by interest on them.

The company did not earn in excess of 7½% on the cost of the property until 1922. This takes into consideration the period from 1870 to 1922.

[fol. 15] The fair value of the property as of December 31, 1923, inclusive of all items of property—taking into consideration the four bases of appraisal which I made ranging from a price level as of the close of 1923 to the ten-year average of prices ending with that date, also, the actual cost of the property, the nature of it, price levels upon which expenditures were made and probable future movement in labor and material—is, in my judgment, not less than \$19,000,000. The physical property alone is worth at least \$17,500,000. Allowing for working capital, water rights and going concern value on the basis recognized by the Indiana Public Service Commission, the total is worth about \$19,000,000. The physical valuation is \$17,500,000. \$19,000,000 is a minimum fair value. This is giving such weight to the original cost of the property and at pre-war level as in view of present conditions they seem to deserve.

A reasonable rate of return on property in my judgment is such as would induce the public to invest in the property, and such as would procure money in competition with other investments. I think it would require 8 per cent on a fair value of the property to serve this purpose.

[fol. 16] Cross-examination.

Questions by Taylor E. Groninger, Esq.:

I do not know the cost in money to the company on its last sale of bonds, but doubt that such cost should be given any great consideration, because of the fact that the bonds were only one class of security and a small amount at that. Such cost did not go to the question of fair return on the entire property. I do not know whether the last sale of bonds amounted to \$1,500,000, what the terms of the sale were, the brokerage or the cost over and above the yield to purchasers, but I have given consideration to the matter in connection with recent financing of public utilities in the competitive market. The bond investment is a good investment. The stock is not regarded as an investment by me.

The water company has the exclusive privilege of serving in the area, with no known probability of its privilege being disturbed, and that was the reason for saying that the return should be as low as 8 per cent on the low level. The company has not been prosperous.

(In previous testimony before the Public Service Commission of

Indiana. I stated that I "have known for a long time that the Indianapolis Water Company was generally regarded as one of the successfully and profitably operated utilities in the United States. I do not know the exact figures for any one year, but that it has always been regarded as a property of good credit.")

[fol. 17] That testimony related to recent years during the commission period and during the war period. Considering the entire history of the company, it has not always been a successful business. It has been conducted in the hope that in the future it would obtain the necessary relief for financing its requirements. That was one of the reasons why it has been brought before the commission so much. I testified before the commission in July, 1923, "that the fair value of the property was \$18,000,000; that by reasons of additions up to January 1, 1924, it has increased \$1,000,000." \$733,000, according to my advice, is the amount by which the property has been increased by addition.

The valuation of \$19,000,000 takes into consideration depreciation. I determined only existing depreciation as of a certain date. This is done by an examination of certain parts of the property and by consideration of the probable future life as indicated by the physical conditions noted in the examination, that is, a sinking fund method plus inspection, or one method modified by another. I have not examined every part of the physical property myself, but my staff of men worked on it and I have been over the property a number of times in 1922. The appraisal of the property was started the latter part of May, 1922. I spent quite a period here about that time going over every part of the property. I had been over it before. [fol. 18] I was in every building and saw every machine, accompanied by my engineers who went into details regarding different classes of property. I saw quite a number of street openings where the main was exposed and saw samples of pipe. I have seen five or six street openings. My chief engineer had gone into probably as many as 40 or 50 openings and tested the pipes. There were miles of pipe I could not see and for that reason I modified my inspection result by the sinking fund method.

The annual allowance for depreciation is determined on the sinking fund method, using the same estimated life of the property which is used to modify my inspection in determining the accrued depreciation. The straight-line method of determining depreciation is wrong. Such method is not used by the Inter-state Commerce Commission on long-life property. The straight-line method would reduce the present value more rapidly than the sinking fund and provide for a higher annual depreciation. One can determine the age, but can not determine the life of a property. That is a matter of estimate. The life is assumed by engineers where there is no better information. In determining depreciation consideration is given to obsolescence where it is present and enters into the life affecting future usefulness.

All through Exhibit No. 1 depreciation is shown by finding the [fol. 19] present per cent condition.

Question. In this judgment of yours of the fair value of the property have you given any consideration to the fact that there was reinvested in the property and plant the sum of \$664,000 of depreciation reserve money? Ans. Not in my estimate of fair value now. I am appraising the property without regard to the source. I do not know the source from which money was obtained by the company for its expenditure. No attempt was made to separate non-operating property. There is believed to be some non-operating property, but in making the estimate of \$19,000,000 testimony in a former case and the Commission's decision were taken into consideration.

In Exhibit No. 1 is set out \$133,662 of reproduction cost new of non-operating property. The property consists of Fall Creek dam, Fall Creek mill, Washington Station Warehouses 1 and 2, the annex to Warehouse 2 and the mill equipment at Fall Creek mill. That property was appraised in the same form as all other property. No non-operating land is shown in the exhibit. I am not passing on the question of operating and non-operating. I was especially instructed not to go into that. The property above mentioned is clearly not public utility property, and stood out as such. I made no study of the subject and do not say whether that amount or a larger one is to be deducted. I merely studied and appraised the property the company owned. I took the inventory which the company gave me and checked it to see that it was accurate, and then the inventory was brought down to December 31, 1923, and upon that a reproduction estimate of physical property, exclusive of land, was made. The land appraisal was accepted for land value.

The depreciation of \$1,056,846 appearing in my Exhibit 1 at page 3 was arrived at by inspection modified by estimated life and future usefulness.

The pipe included in the item "mains" has a total reproduction cost of \$7,024,289 and the salvage value \$702,429, the estimated salvage being placed at 10%, that being the general experience as to salvage value on that class of property. The salvage value is a percentage of the value of the pipe new as scrap iron and the scrap iron market follows the price of the finished product. 10% is a fair average of salvage value on property of this character. I deduct salvage value from reproduction value new to determine the wearing value. I take 96% of the wearing value as depreciated wearing value and add back the salvage. The 96% in my judgment is the per cent condition of the pipe. That judgment is based on a study of the life of cast iron pipe and its characteristics in different periods in its life. Its life depends upon the soil and the thickness of the pipe. There is cast iron pipe in use over 200 years old. As a matter of fact, it does not wear out in use. I assumed the 125 [fol. 21] year life when I determined the per cent condition. I could not determine the average life of pipe mains exactly. The company had a record of the purchase orders, but I did not go over the entire history of the company. I could have ascertained the number of tons bought each year, but did not. The knowledge of such purchases would not have modified my answer, because the

tonnage would have to be adjusted for different weights of pipe and soil condition which have been taken into consideration. The per cent condition is a judgment figure absolutely arrived at after such modification as specific factors indicate. It is judgment based upon what we saw in examining the mains and on our knowledge that cast iron pipe has very long life. They are out-grown rather than worn out.

I do not have my field notes of inspection and do not know whether I could find them. The judgment of my chief engineer was considered in accepting the 96%. As a rule a log book is not kept of what is done in the field. I saw all memoranda and note books of my assistants, most of which were made up under the direction of my chief engineer, Mr. Dorszeski. I accepted his opinion. He did much more of the inspection than I did and is a man of wide experience. I did not compute the depreciation according to the straight-line method, assuming a number of years of life and a number of years of age. I do not think such method is accurate. [fol. 22] I don't think the law of Indiana recognizes the straight-line method.

Average depreciation I determine by finding the composite life of property as a whole and setting aside a certain amount that will, at compound interest, restore the principal sum over a period. Approximately eight-tenths of 1% is the basis at which I arrived for this purpose. The amount should be large enough to restore the original investment after replacements are made. I do not set up depreciation to take care of fluctuating values.

My Exhibit No. 4, column 13, page 2, shows a total annual depreciation set aside by the company, from 1910 to 1923, of \$1,112,601. This depreciation exceeds that which I have allowed for the entire life of the company's property, and it is proper that it should, there being no specific relationship between the amount that accumulates in a reserve that is based on items that must be estimated as against the actual physical depreciation of those against which you make protection. In an academic sense, property begins to depreciate the moment it is installed. Some of it begins to depreciate in a material sense. The property is not partially exhausted each year. It has a liability of exhaustion, but you must take care of it in some way or other. I have taken care of it on the [fol. 23] basis this commission has computed, with which computation I agree. The property is not depreciated to the extent of its liability for exhaustion from year to year, because additions have gone into the property and maintenance has gone into it. There is exhaustion of service life going through property at all times and when it is worn out you replace it: that is what reserve is for.

I find the hydrants to be in 95% condition. This is determined by an inspection of each hydrant on the streets of Indianapolis. The life of a hydrant is uncertain, but it has a life. I assume ultimately they will wear out, but the greatest casualty comes from breakage. I have not said that the life is 30 years. I would only consider life as determining the time over which some provision must be made for restoring the original investment. I inspected

personally 25 of the hydrants. My men saw all of them. There are several thousand. I don't personally have notes of the inspection. I know it was done. Inventory notes were submitted by the company and my men verified them. I don't know where my notes are. Probably in the vault in Chicago. I can produce the original inventory that was given to me by the company.

The final figure of per cent condition on all items of hydrants and mains is necessarily an expression of a judgment giving weight to the factors which property inspection indicates, plus a modification by the life table.

[fol. 24] I set up a 96% condition on services showing the same per cent condition as the mains. The service per cent condition is a matter of judgment, modified as I have stated. That is all you could possibly get from notes. It is the judgment of the man who made the inspection, plus his knowledge and his interpretation of the facts.

In my Exhibit No. 1, at page 3, I show an allowance of 15% for overhead on all specific construction cost. This amounts to \$2,958,548. The 15% contains an allowance for structural overheads on land. It is applied to land, which would amount to approximately \$450,000 on the land item. I can not tell what the books of this company show to be the actual structural overheads since 1881, but I can tell through the entire history of the utility since it began to operate, but not of the Indianapolis Water Company alone. I am not dealing with any legal organization; I am dealing with a public utility, the physical plant. I make no separate item to show overheads from 1881. The history of the utility dates from 1869 and the overhead is \$878,335, or about 9 $\frac{3}{4}$ %. Adding to that 6% for interest during construction I obtain 15%.

The company has kept its books according to the classification of accounts prescribed by the commission since 1913. The classification [fol. 25] provides that overheads shall be so kept in the account. I have not made investigation to ascertain what has been in the last ten years nor have I inquired from anyone connected with the water company about it. I don't know that it amounted to only 7% from 1913 to 1923, but I should not be surprised at that, because it does not include all the items. Had I known that for the ten year period the books showed only 7% overheads from 1913 to 1923, I would have allowed 15%, because the books do not include interest during construction nor taxes.

I know the history of the company quite well. It has been built up by piece-meal construction. The taxes were paid out of operating expenses year after year.

Q. The interest was paid the same way?

A. Some distribution of those items was made. Taxes are paid now before the income available for return is determined. It is a part of the operative cost.

Some of the \$800,000 which I have mentioned for structural overheads was charged to operating expenses on the books of this company, but I would not say that it had been paid by the customers. I don't think that 50% of structural overheads as shown on the

books were paid by operating expenses. It was less than 50% according to my distribution, but I have found more overhead charges in the plant than was mentioned in the opening statement made by counsel for the city, so that my percentage would be different. [fol. 26] As indicated by the books of the company, 9% was actually spent for structural overheads, exclusive of interest.

My Exhibit No. 3 is an exhibit in which I undertake to set up the actual cost of the property, including land appreciation, working capital and development cost. The figure \$9,165,461 represents the actual dollar cost of the physical property as shown by the books of the company, exclusive of overhead. The other figures added to this amount to give the total cost are not speculative figures, but represent costs incurred. To the actual cost of the physical property I have added 15% or \$1,374,819; that is, actual money. I can determine it from the books. The books do not show \$1,374,819 as an item in plant cost. It is a calculation designed to show that \$878,335 of that amount does appear as an actual charge to the property and plant account on the books and the interest on the money during the period of construction. The overheads in excess of \$878,000 charged to property and plant account result from an analysis which I have made of the plant account and operating expenses. The figure \$1,374,819 is exactly 15% of \$9,165,461. I arrived at the total overheads in that manner. Of that the \$878,335 represents actual expenditures for overheads included in the property and plant account, and the balance is the estimate of items taken through interest and tax expenditures. The 15% is not an arbitrary but a round figure.

The \$2,196,845 land appreciation does not represent an actual investment on the part of the company. It is a profit to the company which the United States Supreme Court says must be included.

The Court: Mr. Hagenah, we are trying to find out whether these figures have back of them actual dollars received or spent.

The Witness: The item of appreciation is clearly marked as such and the arithmetic of how I arrived at it and why I put it in there. It does not represent dollars spent.

Development cost on a 7½% basis of return is \$4,222,223 (witness' Exhibit No. 3). That is not represented in the cost of the physical property of the Indianapolis Water Company. It is represented in the full accounting and statement of the company. It is a sacrifice, interest not earned. It is not a capitalization of past losses on the basis of 7½%. The statement in Exhibit No. 3 is merely an attempt to set up the amount of money that has actually been expended and appears under the property and plant account, and that which by another analysis of all the books and accounts of the company shows is another cost. It is a part of the cost whether you set it upon the books or not. Somebody pays it. This cost [fol. 28] does not appear on the books of the company. I haven't said it did. It comes from the exhibit I have explained. If the company had actually earned 7½% the \$4,000,000 development cost item would not have been shown in the exhibit. It is a measure of loss to the company—a sacrifice.

My Exhibit No. 4 is prepared to show deficiencies in return on investment in this property. It follows the summary in Exhibit 3, and supports it. Column 17 shows requirement for a return of $7\frac{1}{2}\%$ on the total investment. I think I mean investment in this set-up. Columns 4 and 5 of exhibit 4 are, respectively, arbitrary allowance for overheads at 15% and the appreciation of real estate. But I think that is a part of the true investment. It is not the dollar investment in the property if you give it that limited meaning. My Exhibits 3 and 4 were not intended to show the dollar investment. Exhibit 3 contains the same items you are referring to in Exhibit 4. In treating the appreciation of this property from 1871 to the present time, as I have done in Column 5 of Exhibit 4, the appreciation is uniformly spread over the property, that is, I spread the item that appears on my Exhibit 3, which is the difference between the actual cost of the land and the appraised value of the land in 1923. No appraisal of the land was made each year, but the appreciation was spread over the entire period from 1871 on a percentage basis. This appreciation was the difference between actual cost and the appraised value of the land in 1923.

[fol. 29] If the land increased that much each year it is an increment. As to whether it is profit, I don't know whether the inquiry seeks a technical answer. It is an increment; it is profit offset by many losses. The offset appears in the last column, the deficiency for the year, as shown by red figures in the exhibit. I did not add this column to income. It is not income until it is sold and realized. Appreciation in land is property value, but not income. I would include these two columns, 4 and 5 of my Exhibit 4, in order to show the actual investment in the property and plant if I wanted to truly set forth the situation. I do not think the additions I have made are speculative. They merely take all the accounts of the company into consideration instead of just plant account. In those days there was no classification of accounts under public supervision.

Exhibit 4 does not represent dollars but is a set up because it is investment. If you eliminate columns 4 and 5 of that exhibit the red figures in column 18 would be changed. I don't know whether it would show a surplus instead of a deficit in every year, but the more you take out on the $7\frac{1}{2}\%$ basis the more you are going to affect the last column. I will gladly make adjustments as a matter of computation, to show the effect of removal of columns 4 and 5 from my [fol. 30] Exhibit 4, but can not accept the accuracy of such a theory. By removing columns 4 and 5 I can make the exhibit show the actual dollars invested in the property, and I will do so at request of counsel.

Before the public service commission I submitted three appraisals—all different from those submitted here today, being on different price levels. I submitted one on average prices of 1911 to 1920, inclusive; one on spot prices as of October 1, 1922, and one on a five-year average from 1916 to 1921, and my exhibit No. 1 here is for 1920-1923. The last shows the price level that prevails most

recently and more nearly represents the price level if you were going to reproduce this in the near future.

As to the appraisal for cast iron pipe, I got my cost from the United States Cast Iron Pipe & Foundry Company. It would have taken a good deal of time and expense to have gone to the Indianapolis Water Company and gotten the actual cost, and they buy their pipe from the United States Cast Iron Pipe & Foundry Company. It would not have reduced my figure had I done so. The company has not in actual experience bought this pipe much under market prices. At times it has bought it lower than the market price, but generally not. I have said that they bought cheaper than the general quotations last year. Other times they paid pre-[fol. 31] miums. The United States Cast Iron Pipe & Foundry Company sell, depending on deliveries. I did not mean to say that they bought cast iron pipe at less last year than the quotations. I don't apply that to last year. I could have learned from the company the price of cast iron pipe at the time of deliveries.

I am reproducing the Indianapolis Water Company, but not on a piece-meal purchase price. I got my unit cost for labor in Indianapolis—from the company's payroll, from contractors and from employers. I consulted other contractors, because the Indianapolis company is not employing the number of men or laying the amount of work in any one season which the reproduction of this property would call for. They could not reproduce it with their ordinary extension staff.

I used in all of my appraisals an item called "Building service expense during construction." In brief, these are the costs which the contractor or company must pay, which are not direct labor or material expense. It includes watchmen, inspection, temporary structures, scaffolding. This item is included in addition to the contractor's profit. A contractor's profit of 10% is allowed on all construction work which I see before me in my exhibit. I assume that the property was and would be built by contracts being let and com-[fol. 32] petition had. I do not know how this plant was in fact built.

I have included in my appraisal of mains \$175,000 approximately, due to increase cost of placing mains in congested areas. I recognize this claim because there is greater expense in laying mains in congested areas downtown than in outlying districts. The \$175,000 is in addition to the regular unit cost of laying the mains. But the unit cost does not reflect that cost, therefore it is added as a charge for an extraordinary condition.

I have allowed \$240,000 because the downtown work costs more than the residence district work, and such is the experience in all large cities.

As to the snow pump at Riverside station, a 20 million gallon pump, I could not say when it was purchased. I don't know that it was purchased in 1895 for \$70,000. The reproduction cost of it today is \$265,200 and its condition 75%. I don't know how much longer the pump will live. One of our engineers determined its present condition by inspection. I don't find any notation here as

to its life. I don't know how long it has been in service. We are more concerned with the condition it is in now. Of course, there is the customary overhead item of 15% on the appraised value of the pump. If it cost \$70,000 in 1895 the overhead would be approximately one-half of the original amount.

[fol. 33] I allowed \$235,000 in my appraisals for working cash capital and supplies. I did not separate the two items. I arrived at this figure from a study of the company's current assets and liabilities, by months, over a period of years and a study of the individual accounts, such as materials and supplies. I found from my studies that the rate payers in 1923 paid in advance \$831,945.12 while the current expense for the year was only \$517,923.86. I also learned that during 1922 the company earned as interest on its cash deposits \$10,087.10 and in 1923 it earned on the cash deposits \$6,122.21. The company had on hand at all times nearly twice as much capital as was necessary to take care of its operating expenses, and I rejected part of the working cash capital for that reason. Some of the purposes of working capital are to furnish an allowance that will just enable the utility to take care of current expenses and pay discounts on bills, and that is why I have allowed them the \$235,000 for both items when the company had more than that on hand. It is necessary to allow something because it is necessary that a part of the money on hand be used in the business. One can't reject all the working cash capital because the company has on hand more than it should have. The \$10,000 earnings of interest on the year's cash deposit indicate that the company carries a large cash balance. It had more money on hand at all times than was necessary to carry on its operating expenses, but I have not included it in the appraisal. I have allowed \$235,000 for the item of working capital, which may be more or less in material and supplies at one part of the year and cash at another part of the year. I can not sub-divide it. I can not separate the materials and supplies from the cash, but would say the materials and supplies would range from \$100,000 to \$130,000 a year from month to month, and the difference between that and \$235,000 is the cash. If they buy a large amount of supplies the cash is reduced and if they don't the cash is increased. They had more cash than I expected.

As to water rights, they are independent of land values. I accepted the appraisals of the land appraisers, and I understand that they appraised the land at the fair market value of the land in the same neighborhood. I saw no item on the books of the company relating to the expenditure of money for acquisition of water rights exclusive of land purchases where the land is owned by the company. I understand that the public service commission has allowed \$1,416,000 for going value and water rights in Order No. 6,613, where the commission considered an appraisal of all the property for securities purposes. I don't know whether the public service commission ever made an allowance for water rights or not in a rate order. I think the commission does not reject the item for rate making purposes. [fol. 35] Going value is shown on my appraisals to be \$2,000,000.

That was shown also in the appraisal I submitted to the public service commission. The going value would be the same in my previous appraisal before the public service commission of \$16,026,456 as it would be in my appraisal in Exhibit 1 of \$21,625,358. Nothing has happened in the last year or two which would tend to increase or reduce the allowance for going concern value in a reproduction cost appraisal. Going concern value is determined from a study of the company's operating history, its records and its present business in the light of the law. It is based on facts I have discovered in the books of this company. I think the books show an outlay in this respect.

Outside of what I have shown in my Exhibit 4 I do not know of any going value except such as results indirectly in establishing assets. My idea of going value of property is not that it represents past deficits. I would simply reject that idea. It has been accepted by some. It is a matter to be considered in any equitable analysis and determination of values. It is not controlling. Going concern value is a matter of judgment and I have made it so here, basing my judgment on studies I have made and my experience in the field. [fol. 36] I took into consideration the Noblesville dam in determining water rights. I don't know whether it is being used by the company or not. I don't know when they bought an interest in the dam nor anything about the conditions out there. I reckon it with other items in making up the water rights value, because it is only a water right. I am not discussing the physical condition of the dam. I divide the water rights between the utility and the public. I don't think any utility has the right to capitalize a natural resource and give no consideration to the public. One of the main factors in the estimate of going concern value is that the people using the service give what you call going value. That is the difference between property with customers attached and property ready for business without customers attached.

Cross-examination.

Questions by Edward M. White, Esq.:

I think the rate of return in this case should be 8%. I don't know what the legal interest rate is in Indiana, but I know you can not finance a public utility on the legal rate. I do not know what the interest rates at the banks and trust companies were for loans on money last year. They ranged from 6% up. There was a discount on a good many loans made and the net cost of the money more than 6%. I have not been in the banking or loan business, though frequently engaged by banks.

[fol. 37] Cross-examination.

Questions by Clair McTurnan, Esq.:

I arrived at a judgment figure of \$19,000,000 as a valuation of the property. I have four bases or methods in arriving at a reproduction cost. These cover various periods of prices, ranging from one to ten years. The maximum reproduction cost on any basis is \$26,-

521,612, the minimum is \$22,359,354, in so far as appraisals introduced today are concerned, but a \$19,787,034 is the lowest appraisal of this property that I have recently made and upon which I have been cross-examined. I offered to the public service commission that \$19,000,000 exhibit. My judgment figure is not entirely based on that exhibit. In making eliminations from my reproduction cost values, which vary from \$22,000,000 to \$26,000,000, in order to reach my \$19,000,000 judgment figure, I considered reproduction cost less depreciation of the physical property on the seven different price levels on which I have appraised this property, and also considered the actual cost of this property. It is my judgment that the fair value of the physical property alone is not less than \$17,500,000.

I make no eliminations from the item of working capital, which is also the same figure as the one adopted by the Indiana commission. I am willing to eliminate from my estimate for going concern value [fol. 38] and water rights enough to make my figure the same as that which the commission allowed for these two items, namely, \$1,416,000. Taking off depreciation on the property to this more recent inventory date, I would add enough, to the \$17,500,000, the minimum physical value which I would concede, to make \$19,000,000. My \$17,000,000 is not an appraisal. It is an attempt to weigh the effectiveness or the value to be given to the different appraisal bases. I reject the high reproduction cost figures because of the high price levels that now prevail. I recognize that some day prices will come down; economists say from ten to twenty years; some say never down to 1914 price level. I could give reasons for the last view. Neither my appraisals nor any appraisal reach an accurate result in determining the value of the property at the present date. My \$19,000,000 valuation is an opinion based upon all the evidence of value, attaching such weight as I think proper to each evidence of value. The \$17,500,000 is below the reproduction cost appraisal as a concession to the weight which I would give to the cost of the property, and I would give no further weight to historical cost than that concession indicates, because it is ancient history and not a measure of present value.

Q. Is it possible for you to make an exhibit which shows how you arrived at the value of \$19,000,000?

A. Not any more than I have given you.

Q. Can you make an exhibit setting out the facts in a similar [fol. 39] way that you arrive at your other valuations?

The Court: I would like to have Mr. Hagenah start with some figure and go up, or start with another figure and go down, and see how he gets at that \$19,000,000. I think it is within his function, having given us figures compiled from books or from accurate data. I assume Mr. Hagenah is not called upon here to express an opinion upon the whole issue. He may be permitted to do so, but certainly it is not binding upon him. He is here seeking to aid us through calculations he has attempted to make, and I am rather curious to see how Mr. Hagenah, starting with reproduction valuation of something like \$26,500,000 or \$27,000,000 gets down, item

by item—I don't mean small items—down to \$19,000,000 so it will not disclose an arbitrary act. If he can do that, he could do the opposite—start up and throw in more for good measure. Go on.

The Witness (continuing): In reaching the judgment figure of \$19,000,000 I ascribed to the land its present value \$3,014,627. As to the buildings, I assume that building costs at the present time are very high because of some temporary condition and some more or less permanent conditions, and I would make a reduction because of the temporary elements tending to establish the present high price level in building and structural work. I would take into consideration [fol. 40] the prices as to the future in any reproduction theory. I can utilize figures in the past but not in the future. I do not handle the matter by making deductions in the \$1,916,336 item for buildings, fixtures and grounds. I take that into consideration in my value of \$19,000,000; I consider it to the extent that it is present reproduction cost and that it is likely to be the reproduction cost of buildings for two or three years. But in fixing a fair value for rate-making purposes I would make some concession from that price level, because of my confidence that prices will go lower. My confidence in that respect is based on economic study and on the fact that the process of readjustment will eventually bring us to a lower price level, although it is years away. I can not say what percentage should be attributed to that reduction or how much effect it should have in reaching my judgment figure. I make no such computation. I don't reach any conclusions as to the reduction of the item of \$1,916,156. I would not do that if I were giving consideration to the item. I treat the property as a whole when I come to make the final value. If counsel wanted me to analyze buildings (to show how impossible it is to answer counsel's questions) I would have to go into labor on one side and then building materials. I would have to take transportation into consideration, union labor, non-union labor, congestion of building in the city and efficiency of labor. I can't do that nor can anyone else. I could tell you how [fol. 41] I arrive at my results. I weight all the elements of my seven appraisals as a whole. They are accurate as to price levels which they reflect, but I discount their weight from full effectiveness because of concessions to the lower original costs of the property and my confidence that ultimately prices will go below the present level.

Questions by the Court:

I have before me the appraisal of this property on seven different price levels. In reaching the judgment figure of \$19,000,000 after having the reproduction value of \$26,500,000, I do not give major weight to the present price level. In the first place, I take off existing depreciation from all my appraisals, which is about \$1,500,000. I first find the physical property alone. My appraisals of this property alone of this date ranged from \$17,052,000 for the physical property alone, based on one price level, to \$22,682,000 on another price level. For the reasons that I have already stated, my concession to the original cost of the property and in arriving at my fair value figure, I reject in such compromise the high price levels because they are

not permanent. The lowest price level—the ten-year level, in which high and low price levels are taken into consideration and weighted—is \$17,052,000. That is the lowest possible figure I could get without going back to pre-war days. But even in that figure I go [fol. 42] from 1911 to 1920. I think I should add something to that because of changed conditions since 1920, and I increase that figure to \$17,500,000 by adding \$448,000 as my concession to all the economic conditions affecting labor prices, interest and taxes that have transpired since the end of 1920. That gives me \$17,500,000, which is the minimum value of the physical property alone and is as low as it is because of concession to the original cost or actual investment. I add to that the working capital of \$235,000. I further add \$1,416,000 allowed by the commission for going concern value and water rights. In round numbers after adding these three items I get \$19,000,000. I can not say in this process what weight was given to individual items of labor, interest, taxes, transportation, building costs, monopoly feature, congestion, public service control and many other items that could be mentioned. I base it all on my lowest starting point of approximately \$17,000,000, and from that I build up and add only \$448,000, the cost of advancing prices since 1920.

Mr. McTurnan resuming questions:

My judgment figure is \$6,000,000 less than my maximum appraisal figure of the present value under the reproduction theory. It is not discussing comparable things to suggest that I reach a figure of \$19,000,000, which is \$11,000,000 in excess of the actual investment. My \$19,000,000 includes working capital and a reduced allowance for going value and water rights, and the \$9,000,000 which is referred to in the question does not even include the actual overhead charges on the books of the company and is exclusive of working capital, going value and water rights. I do not find an actual cash value of \$9,000,000 on the books of the company. I find \$10,043,000, which includes operating expenses, overheads and every item that I have been able to reach from absolute, positive, recorded fact in the books. I don't mean that \$10,000,000 includes the operating expenses, but it includes certain charges made to the property and plant account for overhead charges taken out of operating expenses, and appears so on the books. It does not include the 15% for the purpose of raising those items on the books of the company to further items of overhead charges that appears in the income statement. The \$10,000,000 plus does not show every item chargeable on the books, as shown by them, to operating expenses and every other kind of expenditure in the company's experience. It does not purport to do so. Confining the point to plant account I would say that the books do show all of such items. I can not say that my reason for stating that the books do not include all the overheads is because I have a theory that 15% must be charged, regardless of what the books show. There is no theory about the 15% overhead charge, unless you say that in [fol. 44] terest charges on money are a theoretical account. I regard interest as a part of overhead charges.

If I found the company had kept an accurate record of the books and if it purported to, and under the law was required to make a report of its accounts and expenditures for fifty years back, and if I found in that bookkeeping that the overhead expense was only 7%, I would still apply the 15% in valuing the property, because my analyses will show that the 7% did not cover all the items.

The straight-line method of determining depreciation, that is, dividing the supposed life of the property by its average age, is a method that has been used by engineers in determining the expectancy of the property. On a property which has a life of one hundred years on a straight-line method of depreciation would give to the company one per cent per year, but even if such a company collected one per cent per year and that per cent of depreciation were taken account of in fixing the rate, still I would not, for the purposes of arriving at a reproduction value of the property, be willing to accept the one per cent multiplied by the age of the property as a measure of the accrued depreciation, and I would not accept that basis of accrued depreciation in ascertaining a reproduction even if the company in its history had actually been receiving [fol. 45] an allowance on that basis for depreciation. It might be that the property was not depreciated in the ratio in which the straight-line reserve had been accumulated. I negative the suggestion that the application of the straight-line method for determining the annual depreciation and a use of the sinking fund method for determining the accrued depreciation for the purpose of reproduction cost amounts to a capitalization of the depreciation to the extent of the excess of the amount received under the straight-line method over the amount calculated as accrued under the sinking fund method. There is no relationship between the actual physical condition of a property at the time of investigation and the amount in the depreciation reserve and if a company has collected depreciation at the rate of one per cent per year in its reserve fund when a smaller sum would have been collected under a sinking fund method, it is not capitalization to use the accrued depreciation as determined by the sinking fund in arriving at a reproduction cost new. Valuation is a matter of fact and excessive accumulation of depreciation imposes on the commission the duty to reduce the charge included in operating expenses.

Any money accumulated in the depreciation reserve may under the Indiana law be invested in various ways, the income from such [fol. 46] investment belonging to the fund. The company may temporarily finance immediate construction from such fund, subsequently replacing it. An accumulation of the depreciation reserve over and above the amount required by the sinking fund method should not be taken into consideration in determining a rate. When depreciation reaches an amount which a Commission regards a reasonable amount for protection, the charge against operation is reduced and the net earnings are reduced and the public receives the benefit.

In appraising the canal for reproduction cost purposes I consider the physical condition of the territory as it was at the time,

that is June, 1922. The canal originated as a state enterprise; it was there and I put in the expense of constructing it as an item of reproduction cost. I do not understand that the Water Company dug the canal constructed. I do not know that they ever paid any more for it than they would have had to pay by condemnation proceedings at the time they acquired it.

In considering the conditions under which reproduction would be necessitated, I accept the conditions as of the time of the investigation except that the condition of water supply to the city would not enter into my computation at all. I construct the canal on the same theory that I construct the rest of the property. I made no [fol. 47] charge in reconstruction for any cost of removal of buildings from the canal site and I did not charge for any removal of buildings in the process of the reproduction appraisal because I found none there. What was there was the canal. The land which I appraised there was taken at the actual market value of the appraisals. Had I found a natural stream or rivulet, I would not have treated its value as the value of the adjoining land plus water rights, if any.

I do not appraise natural rivers. That is not construction. I do appraise water rights but not any rivulets. If I found an artificial structure that exists by virtue of construction by the state or which exists because of the previous state of civilization, if these structures and constructions are available and useful to a public utility, I appraise it for reconstruction purposes without regard to how it was acquired. In case of a pipe line we buy the pipe and lay the pipe in accordance with specifications and cover the street. I do not charge the cost of manufacturing the pipe in as a price to the company but merely charge the market price. In case of a canal, if I were to find a canal existing in a place and useful, I would not have my utility go out and construct another canal but would have them acquire the existing canal on the best possible terms.

[fol. 48] Working cash capital is not the amount of money that it will be necessary to use from time to time while awaiting an accumulation of returns; it represents the necessary amount invested in operating materials and supplies necessary in the repair, upkeep and operation of the property, and sufficient cash to enable the company to discount its bills in anticipation of collections and to meet its current operating accounts promptly.

451 Q. If you find it is the actual history of the company to which you are giving consideration, that that company has in fact certain advance payments of rates and tolls which accrue to it in advance each month in excess of the actual requirements for working cash capital, do you still make an allowance for working cash capital?

A. Yes, but I would reduce it if the condition you describe existed, but that does not exist here.

452 Q. I am not asking you what exists here. You still make the allowance, although you find the advance payments would take care of it?

A. I would then take care of materials and supplies, yes.

453 Q. Would you take care of the other working cash capital?

A. Not if it was taken care of in some other way.

454 Q. Supposing materials and supplies were so taken care of?

A. I do not know of any such condition.

455 Q. If there were such a condition?

A. If that is conceivable, it would affect my answer.

456 Q. By the extent of abolishing or eliminating working cash capital?

A. To the extent the inconceivable was present, yes.

[fol. 49] CECIL F. ELMES, a witness called on behalf of complainant, being first duly sworn, testified as follows:

Direct examination.

Questions by William A. McNerny, Esq.:

I live in Chicago and am Middle Western Manager of Sanderson & Porter, consulting engineers, occupied to a large extent in the valuation of public utility properties. The extent of appraisals is probably three-fourths of one billion dollars. I was educated at Woolhampton College, England, in France, Austria and London University, was an apprentice in electrical training in England, Central London Railway Company; Civil Engineer in Utah, Nevada and Montana; with Sanderson & Porter since 1908 as Assistant Engineer, Engineer, Assistant Manager of Valuation Department, and Manager of Middle Western office. My work has covered valuation for financial purposes, bank reports, proposed sales, purchases and rate cases.

Referring to my Exhibit No. 5 (complainant's), that is an appraisal of the property of the Indianapolis Water Company on average prices for the three year period ending December 31, 1923, and comprises the property of that date. My summary of fixed physical assets, Exhibit No. 5, on page one, covers the fixed physical property of the company as of December 31, 1923, priced on a weighted average market cost of material and labor in Indianapolis, current during the three year period from 1921 to 1923. The summary value of the property gives a property new and undepreciated except [fol. 50] that no allowance is included for material, supplies, cash working capital, going concern value, water rights, development of promotional expenses, legal, engineering or administrative expenditures incurred preliminary to construction, costs of financing, including marketing securities and bond discount. The total of that summary is \$21,411,171.00. I have prepared other valuations on prices current during the five year period, from 1919 to 1923 inclusive, the prices used being weighted average prices over that period and the property considered being that existing December 31, 1923.

This summary is found in my Exhibit No. 6 (complainant's). That Exhibit, without the allowances mentioned heretofore, sets out

a property value of \$22,306,902.00. While there is only a summary in that exhibit, we priced the company's property in detail.

Complainant's Exhibit No. 7 covers the same property as Exhibit No. 6 and is based on a weighted average price for the ten year period ending December 31, 1923 without the allowances heretofore mentioned. The total figure of appraisal in my Exhibit No. 7 is \$19,375,023.00.

This figure represents an appraisal worked out in detail. The inventory items are the same as those in my Exhibit 5 (complainant's), only the dollar figures being modified.

[fol. 51] I have a summarized valuation on the basis of a spot price as of December 31, 1923. That is my Exhibit 8 (complainant's). It comprises an appraisal of the property on the basis of the current market price as of December 31, 1923. The figure representing the property, new and undepreciated and with the same items omitted as in the other appraisal is \$22,841,706.

The same inventory was used for all my appraisals. The inventory used was prepared and furnished by William J. Hagenah, of Hagenah & Erickson. We do not entirely rely on Mr. Hagenah for accuracy of the inventory. We never appraise a property we have not seen. I inspected this property on numerous occasions; so also did a number of engineers working under me. I have gone over the maps of the company, inspected every building and practically every important piece of machinery, and so have our engineers. We have thus made our extensive field checks of the Hagenah inventory and are familiar with the property in detail.

We received no prices from Hagenah—merely the unpriced inventory so far as I know. If there were any prices indicated on the inventory we disregarded them. The prices used for our appraisals are our own. The inventory we received from Hagenah comprised the property of the utility as of October 1, 1922. We were furnished with a list of property additions and withdrawals, bringing the inventory up to December 31, 1923.

In applying prices for our appraisals as to material and labor. [fol. 52] we took such as would be paid in Indianapolis by any one undertaking to construct such a plant during the period covered in the appraisal. We made no examination of the company's books nor did we use the company's book cost. We got our prices by quotations from manufacturers, jobbers and dealers. We have records of these quotations for a number of years. We also have records of current rates paid for labor in Indianapolis during the entire period. We have records of freight rates. With these as our basis we priced the inventories for the various periods. In our spot valuation as of December 31, 1923, we used actual quotations for the largest element of value, that is, the distribution system and pumping station equipment. For the remaining items a percentage was applied to our three-year average appraisal to bring the figures down to those of December 31, 1923. This is a fairly accurate method; it is accurate because we are dealing with recent years and therefore it is possible to eliminate errors.

Our real estate figures were furnished by the company and were prepared by two real estate men.

Overhead items consist of administration, engineering, supervision, law expenditures, property damage during construction, taxes and interest during construction, contingencies and omissions in inventory. These are the more important items covered by my overhead allowance. I use 3% as a measure of the overhead for engineering and supervision; 2% to cover administration, which includes management, salaries and expenses of executives, general officers, general [fol. 53] office employees, stationery and printing, rent and expense of office and storeroom. I have allowed 1½% for law expenditures and property damages. This item includes fees and expenses of attorneys, clerks and accountants; law office expenditures and cost of printing briefs; payments to arbitrators on disputed questions; special notarial and witness fees; expense for depositions; court costs in connection with the conduct of suits. This also includes expenses incident to injuries to persons or damage to property.

I have allowed 6% to cover taxes and interest during construction. This includes taxes on all property and interest on all expenditures, at least up to the time the property is first operated and begins to have an earning capacity.

These are the various parts of my 15% total overhead, except that there is an allowance for contingencies included. A contingency item includes costs of items left out,—unusual, abnormal or extraordinary conditions involving changes, reconstruction, temporary or duplicate work, idle or over-time labor, delays, strikes and other similar or unknown or uninsurable causes. For these items I have allowed 1% which was included in the 15%. I do not think that [fol. 54] 1% is enough, but I have scaled it down in an effort to be fair.

I have made an allowance also, which is included in the 15%, of 1½% to cover omissions in taking the inventory. This constitutes an allowance for incomplete inventories, items left out, very submerged or concealed construction, shrinkage of fills and subsidence of ground surface.

My company, Sanderson & Porter, does a great deal of construction work—something like \$75,000,000 in the last fifteen years. We generally figure a 25% overhead. We think 15% dangerously low, but use it here in an effort to be fair. As to the matter of depreciation of the property and my treatment of that, I may say that I have made an inspection of the physical condition to determine how far it might be different from a new condition. In other words, in estimating the physical property I ascertain the rehabilitation cost, or what it would cost to bring it to a 100% operating condition as of April 1, 1924.

My Exhibit 9 (complainant's) shows a study of rehabilitation, and the summary on page one of that exhibit shows a total sum of money which our engineers estimate would have been required to be expended on the property of the water company on April 1, 1924, to bring the property to a condition in every respect equal to new, [fol. 55] save it could not be described technically brand-new.

\$443,044 is about all that could be expended by an engineer to restore the property to practical newness. I will go further and state that no competent engineer could expend a greater sum than this for any such purpose on that date.

The rehabilitation method is the method I use in reporting to bankers or prospective purchasers of property. The items which make up the \$443,000 rehabilitation cost may include some maintenance items, or there may be items which might properly be charged to a depreciation reserve. There may be items that may not regularly come in either place. In preparing a rehabilitation exhibit there is no effort to conform to any one theory. The question asked of engineers is, "What is the matter with the property which in any way makes it worth less than a brandnew property?" The exhibit on rehabilitation constitutes my answer in dollars to that question.

I have not made a depreciation study of all the property. I have made no study of it on a per cent condition basis or a straight-line depreciation theory. I regard all figures, except those of rehabilitation cost, as purely theoretical. Rehabilitation cost is the only practical figure. It determines what a man would actually spend to make good deterioration or waste.

Complainant's Exhibit 10 is an exhibit showing my allowance in my four appraisals for material and supplies and working capital. [fol. 56] Exhibit 10 summarizes the four appraisals submitted by me on the various period prices and the spot prices. There I have dealt with the total fixed property as determined by the four bases heretofore discussed and set forth in my four appraisals, material and supplies and working capital as are shown in the second and third lines of complainant's Exhibit 10, page 1. The material and supply item is an average figure from the company's books for materials and supplies actually carried in 1923. In the summer months when extensions and construction takes place the material and supply figure is at its maximum. During the winter months when construction is at an ebb, material and supplies are decreased. The average which I would use in Exhibit 10 for material and supplies is determined by finding the average of material and supplies on hand July 1, 1923 and those on hand December 31, 1923. This average is \$127,939.

The third line of complainant's Exhibit 10, page 1, shows the working cash capital \$233,306. My method of ascertaining the working cash capital is to take one-eighth of the year's gross earnings. That is a little more than six weeks' earnings. The gross earnings for the year 1923, as furnished by the company, are \$1,866,452. We have taken one-eighth of that as the required working capital.

[fol. 57] The next line in complainant's Exhibit 10 shows the total of physical property, both fixed and fluid. On the ten-year average basis it is \$19,736,268; on a five-year average \$22,668,147; on a three-year average \$21,722,416, and on spot price as of December 31, 1923, \$23,202,951.

My water rights item of \$500,000 as shown on Exhibit 10 (complainant's) and my going concern value of \$2,098,000, shown in the same exhibit, are studied in my Exhibit 11 (complainant's). Exhibit 11 is a report prepared by me for the utility, to show the water rights and going concern value inherent in the property. Exhibit 11 expresses my conclusions on this subject.

I presented a substantially similar exhibit before the commission in December, 1922, though the total for going concern value in the present exhibit is higher than that in the exhibit presented to the commission, due to increase in the property since the former exhibit was prepared, together with increase in the number of customers served and the gross and net earnings. The increase in business and of investment in additions and extensions is sufficient reason to increase the going concern value. Going concern value is essentially based upon the business of the property.

The company's water rights I regard as a tangible item. Some of these items comprise those which the purchaser of a property would have to spend money for in order to acquire them if they [fol. 58] were not already a part of the property. The rights are prudent and are proper rights for the company to possess. They are not merely fragments from early stages of the company's development, but practically every one of them fits into the present and future development of the water company. The water rights I fix at \$500,000 and going concern value at \$2,098,000, and Exhibit 11 (complainant's) shows the manner in which I arrive at these figures.

I find the property in excellent condition. It is not depreciated or delapidated. On the contrary it is maintained in high efficiency and is in 100% operating conditions.

[fol. 59] Cross-examination.

Questions by Taylor E. Grouinger, Esq.:

The Witness: I say that going value depends in a large measure upon whether the company is making a profit, although that is not the sole consideration in such a case as the present one. I regard the method of determining going value, under the Indiana law (which says that "due consideration shall be given to the cost of bringing the property up to its present state of efficiency") as an ideal measure—but hard to apply. I find the actual cost of developing the property to be a very difficult method to actually reduce to figures. It is not as easy for the utility to determine the cost of developing the business as it is to determine other items of expenditure. Going value would to a certain extent fluctuate with the rates. I have raised the going value and water rights in this property as of this date over my estimate of last July a very small amount—about 1% of the valuation of the property, or \$232,950.

[fol. 60] Cross-examination interrupted.

Questions by Mr. McInerney:

I have given considerable thought to the rate of return which the

Indianapolis Water Company requires in view of its present condition. My judgment is that it should net about 8%.

Cross-examination resumed by Mr. Groninger:

I don't know whether Mr. Hagenah has allowed \$500,000 for water rights or not. I had no agreement with him on that amount, or of any kind. I don't know how he determined his water rights. I determined my water rights value on facts. There are many ways of estimating water rights. I think I used the one commonly used.

In my Exhibit 11 (complainant's), I gave consideration to the 1,000 acres overflow right at Noblesville. I know the commissioner's engineer valued that at \$100 an acre. I have not seen this acreage myself but have talked with the company's officials about it. As I understand it, the owners contemplate so complete a use of the water in White River that they might actually shut off the entire flow for as much as eight days in low season. I don't know what [fol. 61] the condition of the dam is. On suggestion of counsel for the water company, that there is a probable error in my statement about the 1,000 acres of overflow at Noblesville and that that overflow is White River at Indianapolis, I presume that I am in error as to description of location. I would not allow \$100,000 for the dam alone at Noblesville. I would certainly allow something on it. I would allow \$100,000 for that water right. I don't know the condition of the dam or whether it goes entirely across the river. My allowance is not based on the dam, and it would not be affected if the fact were that the dam only extended part of the way across the river at Noblesville, or whether there was any dam at all at Noblesville. I am assuming that there are 1,000 acres of overflow right.

As to the 300 acres of overflow rights above Fall Creek, the commissioner's engineer puts an acreage value of \$150 on that, which would bring the value to \$45,000. I did not accept the engineer's value per acre. I combined the Noblesville and Fall Creek dam items.

As part of the water rights, I have capitalized the revenues derived from the sale of water to industries on the banks of the canal. The annual revenue is \$25,000 and I have capitalized this at 10% and thereby obtained a present-day value of \$250,000 for this right. That does not fix the value of the water rights of the canal, because the revenues might be largely increased. The figure of \$250,000 merely represents the capitalization of income from the use of water [fol. 62] sold to industries on its bank. I would not expect to be able to buy the right to such sale from the utility for any less than \$250,000, which would mean that in addition to what it would cost to reproduce the canal property at the present time I would add \$250,000 in order to determine its present value. I reproduced the canal as an instrument for serving water here in this area and then capitalized the special part of the service of the canal. I think I could determine the water right by capitalization of the service through the mains as well as by the capitalization of service to industries on the bank. That would not be illogical, but dangerous.

Questions by the Court:

It would be dangerous because the canal is only a part of the filtration system, the mains and service pumping stations, fire hydrants, etc. There is no danger as to capitalizing the special service rendered, because the company has the right to sell the raw water in the canal, not filtered, and which is in excess of the immediate requirements of the community for drinking purposes. This represents an excess property right over and above that contained in the right to supply drinking water and water for domestic [fol. 63] purposes to the city. This special right would hardly become dominant because of the prior obligation to serve the public for general domestic purposes and fire protection, and I assume that that obligation would not be subordinate to the private interests of individual industries on the bank. It could happen that, if public and private obligations be maintained at the same time, the private obligation might become the dominant pecuniary right.

Cross-examination resumed by Mr. Groninger:

In my Exhibit 11 (complainant's), I capitalized the hydraulic power of the canal, notwithstanding the fact that my appraisals have been on the basis of the reproduction of the whole canal. This is an additional property right over and above the physical property. I appraised the canal as an engineer would, on the basis of construction, as if I were sent out to construct it. I then capitalized a part of the use of the canal separate from my reproduction of the whole. I allow nothing for the water rights at Noblesville. The acreage overflow allowance there of 1,000 acres was erroneous, as to its location.

In my exhibit I do show that the company's ownership in the Noblesville dam safeguards the public in its right to and use of the overflow of White River. That is an allowance of water rights but is not included under physical property item.

[fol. 64] I use three bases for computing going value.

The arbitrary 15% on a physical property value is one of the methods. That is 15% of the fair reasonable value. I also use the method of taking one year and a half of the gross revenue assumed, and I use another method of taking twice the net income for one year; then average the three.

As to whether I give consideration to the matter of development costs in determining going value, I think it is incorrect to say that I give no consideration. I think development cost is given consideration in approximating the going value, either on the basis of the physical property value, gross revenue or net revenue basis. In other words, all of these are derived from development and could not exist if development had not been made. I assume that the development cost could have been obtained for me by an examination of the books. I do not know whether the company is keeping its books according to the uniform system of accounting. If the company is compelled to charge each year to development expense the total

amount expended therefor, then that would be the best measure of development cost. I regard development cost as an element in making up going value, if the books of this company show that from 1913 to 1923 the number of customers was nearly double and that the gross revenue has nearly doubled and the net revenue has almost doubled. Notwithstanding these facts, if the books did not show a [fol. 65] dollar expended for development costs, I would not modify my allowance for going value.

My rehabilitation cost for all the property of this company as of April 1, 1924, was \$443,044. My rehabilitation cost for the property in 1922 was \$411,335. Between these there is an arithmetical difference of \$31,709, but this difference is meaningless. It does not show the measure of accrued depreciation between October, 1922 and April, 1924. The figure is simply meaningless. Neither of the rehabilitation cost figures is meaningless, but to subtract them—they being two unrelated items—would be meaningless. I don't think that \$31,709, added to the amount actually expended by the company during the period from October, 1922 to April, 1924, represents accrued depreciation. I don't know what the company actually spent for rehabilitation during that period. If the company spent \$19,703.69 during that period for actual rehabilitation I could not use that figure with the \$31,709 to arrive at any useful conclusion.

My rehabilitation cost figure of \$443,044 was arrived at in this way: I made a personal inspection of this property, and we placed the dollar figure upon each item we saw upon which we would spend any money, with a single exception, and the total disclosed to me at that time as an engineering estimate was \$443,044. In other words, that is the amount which in my inspection I determined would be necessary to put the property in a 100% operating condition—with one exception. The exception is, the distribution system. There are [fol. 66] 400 miles of distribution system. We figured on that. We accepted whatever figures we could use. It sounds reasonable that that item should have about half the total cost of the property. My figure of \$411,335 as compared with \$443,044 is a figure arrived at by the identical engineering inspection indicated above, with the exception of the distribution system, and for the distribution system we accepted the commission's engineer's figures of \$188,335. I am not sure whether the \$188,335 was the accrued depreciation of the commission's engineer, or how they arrived at that figure. We adopted it, intending to have no contention in the matter as to allowance for the distribution system. Whatever the commission's engineer's set-up was we adopted it. My belief is that the set-up and the figures \$188,335 represented the accrued depreciation as found by the engineer, and to the extent that I accepted any accrued depreciation from the commission and use these figures in conjunction with rehabilitation cost figures, I am illogical.

The Court: Let me ask the plaintiff what its position is as to this rehabilitation item.

Mr. McInerney: It's Mr. Elmes' notion of how to handle depreciation.

The Court: What is their idea in calling it a rehabilitation item?
 Mr. McNerny: It is the amount of money which Mr. Elmes thinks could be spent to bring the property to a 100% condition. [fol. 67] It is not the commission's method of figuring accrued depreciation.

The Court: In matters of \$25,000,000 the 2% at any one date does not mean much. If you can not agree that it is important, I do not want to take any more time. If we are in a field where varying judgments are to be exercised in appraisals and valuations, I do not think we ought to spend much time on a 2% item of \$25,000,000, unless the item can be shown to have a distinct office here.

Mr. McNerny: Your Honor would be interested in the expense of rehabilitation if he were buying a building, but I do not attach much weight to rehabilitation as compared with the total.

The Court: The idea of taking time in determining whether three weeks ago the Water Works Company was 98% perfect is an academic question, but we are not getting very far with it here.

Mr. Groninger: It is not your notion to substitute rehabilitation for actual depreciation?

Mr. McNerny: There have been fairly reputable court decisions which have fixed the present value of the property on this method. The weight would be rather slight as against the whole amount. Since we are in Indiana are the commission is using another method we will be held under general practice of the commission.

[fol. 68] Cross-examination resumed by Mr. Groninger.

The Witness: I have changed my structural overhead percentage from that of the old set-up. In the old set-up I used 17% and in these appraisals I use 15%; but I use substantially the same item on the 17% basis that I use in the 15%. I reduce the percentage on each item, arriving at the 15%. In my appraisal I also utilize the 15% structural overhead on real estate.

In my testimony before the commission in 1922 I used three appraisals. My recollection is that they were based, one on spot price and two on ten-year averages, using different ten-year periods in the two. My recollection is that one of the ten-year periods was 1911 to 1920 and that the property was inventoried as of April 1, 1922. I am using the same inventory today and assume that it is brought down to the date of my last appraisal. I have made no check, simply taking the inventory furnished by Mr. Hagenah. I have not checked it with the old inventory and do not know definitely that it corresponds to that.

In 1922 I found the fair physical valuation of the property to be \$16,169,257 on a ten-year average price basis. That included overhead of 17% and materials and supplies of \$113,419. The overhead amounted to \$2,332,888 and the material and labor figure \$13,722,871. Now, if the net addition from April 1, 1922 to January 1, 1924 was \$1,005,105, the total of said sums would be \$17,659,362.

[fol. 69] Cross-examination by Clair McTurman, Esq.:

The Witness: I present this appraisal, not as my own personal work but as the work of Sanderson & Porter, and I am solely responsible for the figures by reason of being in charge of the office, and I assume responsibility for the accuracy of the statements in this record I am presenting. This appraisal was made by engineers, in addition to myself, who made the investigation and, except for the distribution system, I believe would be complete.

In making inspection of the property I spent a good deal of time, several hours, on the larger pumps. I spent less time on the smaller ones, especially those which had been recently overhauled. I made inspection of these to satisfy myself that I could make a correct statement on oath as to their value. I accepted no suggested figures except in the case of land appraisals. In my appraisals I accepted the inventory of Mr. Hagenah.

I am unable to reconcile the difference between my number of services, 59,118, and Mr. Hagenah's which are put at 69,118. I think however that my figures are correct. That is the number reported to us. I accept no responsibility for the accuracy of the inventory figures, unless there has been an inaccuracy in the treatment of the figures after we have received them.

[fol. 70] There are 3,291 services for three-fourths inch caps and corporation cocks set out in my appraisal—complainant's Exhibit 5. There might be an inaccuracy in my report in view of the fact that Mr. Hagenah lists services of that type as 3,781—complainant's Exhibit 1.

As to the inspection of the filtration plant, I made that myself, examining the concrete. The reproduction costs of this plant were based on figures resulting from my inspection. The figures in this respect I assume responsibility for, although I did not personally prepare them, and I intend to represent that they are accurate.

In my Exhibit 5 (complainant's) my item of concrete under the head of "precipitation basin," is valued at \$69,234. That item is for construction of the concrete. I assume that that includes the contractor's profit. The engineer who prepared these figures is here and could give the details on them. The contractor's profit should be included. I am not prepared to say whether the architect's fee is also included. There is always a possibility of error where a large number of calculations are made. It is impossible to say what the range of the error would be, but there could always be an error.

There is a wide range of difference in opinion in reconstruction work, even considering the same forces, materials and plans, between two engineers' statements. The range of difference is enormous.

[fol. 71] That item of \$69,234, if it does not include contractor's profit and designing, is comparable to Mr. Hagenah's figure of \$99,545, but if the \$69,234 does include contractor's profit and cost of designing, then it is comparable to Mr. Hagenah's figure of \$114,974, a difference of \$40,000 or \$50,000. I would say, until I had discovered assignable error, that my figures were correct, although a

difference of 50% to 100% in an appraisal of a piece of work of this kind would not necessarily be due to error. It might be due to difference of opinion, and the difference of opinion of engineers in an individual item might vary from 50% to 100%. But the differences of engineers' estimates do not vary constantly, that is, on some items one will be higher and on other items another will be higher, so that the differences are not largely manifest in the grand total, but would largely cancel one another. However, I do not arrive at a comparison of merits of two engineers' reports by assuming that the mistakes of one balance the errors of the other.

In a small item of iron pipe, in so far as the material costs are concerned, there should not be very much difference between engineers' estimates. I have an item of ventilator and cast iron pipe of \$14,168, in my Exhibit 5 (complainant's). I expect to determine from inspection exactly what they would cost at the prevailing market price, and I can not account for Mr. Hagenah's appraisal of those items being \$815 in his "complainant's Exhibit 1" when mine is \$14,168. I would assume that we were not talking about the same [fol. 72] thing. We should be asserting value as to the same items, since I have accepted his inventory and when the ventilators and cast iron pipes are listed in the same blank, respectively, in his appraisal and mine; but the figures indicate that we are not. I would not say that was due to a difference of opinion as to valuation; I would say that one of us was wrong.

In my Exhibit 5 (complainant's) I have an item of 148 cast iron filling pipes, 7 feet, 8 inches. My valuation on that is \$420.28. I can not account for the discrepancy between that valuation and Mr. Hagenah's valuation in complainant's Exhibit 1 of \$213.73 of the same item. I would not go so far as to say that one of us was wrong. The figure is not for pipe as purchased on the market; it is for pipe in its place, and the difference in cost might be very large, according to the method of construction by two different engineers. I do not know that this is the explanation of this, but it is a possible explanation. There could be a difference in an individual item of that kind of that amount.

In my Exhibit 5 (complainant's) I have an item of 52 feet of 42 inch cast iron pipe. My valuation is \$1,236.88. Mr. Hagenah's figures, complainant's Exhibit 1 are \$1,940.60 for that item, making a discrepancy which I would hardly expect to find. I would want to investigate the item before I undertook to account for the discrepancy. There must be certain limitations to my satisfaction with my report.

[fol. 73] In my Exhibit 5 (complainant's) I have an item of 881 feet of 16 inch wrought iron pipe with a valuation of \$3,673.90. Mr. Hagenah's figure of \$7,570.43 for the same item in complainant's Exhibit 1 might be due to the difference in expense between the methods of laying used by him and by me in addition to our different ways of setting up those costs. I am not satisfied that his appraisal is set up the same as ours. As to whether I recognize a difference of set-ups of 100% in cost of the item of 881 feet of pipe,

I can not say exactly, but I know that there are differences in set-ups between Mr. Hagenah's appraisal and mine, and I recognize the probability of making a difference of 100% in that one item.

I have another item, of 1034 feet of 12 inch wrought iron pipe, valued at \$3,327.75, in my appraisal, Exhibit 5 (complainant's). The difference between that valuation and Mr. Hagenah's valuation of \$6,136.36 for the same item in complainant's Exhibit 1—a difference of almost 100%—could not be in the value of the pipe, because that is marketable property and we are buying the pipe on the market and it is standard pipe, so the difference must be in the cost of laying it in the board meaning of that term. In my appraisal of that item, overhead, construction cost and contractor's profit and all that enters in, but it does not enter in Mr. Hagenah's appraisal. It would appear that Mr. Hagenah puts the cost of lying the pipe at more than double what I would put it. We figure the laying [fol. 74] of pipe in units, that is, we determine what would be required to lay one item of pipe and multiply that by the amount of construction to be done, so that the price for laying pipe included in my appraisal of the pipe is predicated on the cost of laying in the general process and not as a separate piece of work. If there is a difference in the cost of laying or construction in the case of a small piece of pipe, as between my estimates and Mr. Hagenah's, the difference if continued would be read into the entire process.

In my Exhibit 5 (complainant's) I have an item, Ellison differential draft gauge, scale 800.08, the appraisal price of which is \$64.03. I don't know how that particular item was appraised. I know the operations of my office. The item would be appraised by a mechanical engineer, who would find out who sold such a gauge and who would then call up a manufacturer or jobber and get the market price; then he would make a proper allowance for the cost of installing it and as a result would get the figures set down here. In regard to a large number of items, this would be the process. Mr. Walker, our engineer, was in charge of that work. He had some estimates, and he may and probably would use catalogs in determining the price. I can't explain the difference between my figure of \$64 and Mr. Hagenah's figure of \$13 in complainant's Exhibit 1. I would assume that the two engineers had obtained prices on two different articles. I would attribute the discrepancy [fol. 75] to an error of our engineer or Mr. Hagenah's engineer rather than to a difference of opinion. The description in the inventory sounds adequate to me to designate the property for the purpose of appraisal.

In my Exhibit 5 (complainant's) I list a De Laval, type P-5, horizontal, single stage, double section, centrifugal pump. I inspected that pump and valued it at \$680.64. I inspected it on a trip to Riverside Station when I looked all over the machinery. I heard it run so as to get an idea of whether it was running smoothly. I asked the engineer in charge of that pump as to its recent history and what trouble, if any, he had had with it and whether there was anything he could spend upon it or any work he could do to improve

it, and I also made note of its general condition as I then found it. The chief engineer of whom I inquired was in the employ of the water company. I did not depend entirely upon what he said in determining the condition of the pump, but by observing the running of the turbine I could tell if it were in bad condition. I only inquired about it to determine whether any money had been spent on it or any particular trouble found with it. I could not have told from my examination whether large amounts of money had been spent on that pump. A part of it might be replaced and I would not know it. If the parts were internal parts I could not determine whether it was very new or very old. I knew the superintendent of the water company, on whose information I was partly relying, and he knew what I was doing. My own mechanical engineer was with me. In some cases I accepted the superintendent's opinion, in some cases my engineer's and in some cases my own. My inspection represents only what I could hear either through the action of the pump or from the superintendent.

I don't know the cause of about 30% difference between my estimate on this pump and Mr. Hagenah's. I tested the pump the way engineers test them, which is the best available way to test and inspect them. I did not run a special test.

In my Exhibit 5 (complainant's) I appraised a radial brick stack at \$21,875. That stack is 290 feet above its foundation. It is an octagonal, red brick stack; 9 feet inside diameter at top and 12 feet inside diameter at bottom; concrete foundation 9 feet and 6 inches thick; brick fire lining, inside of octagonal red brick. My construction cost was \$21,875. It would seem a rather considerable variation to find an appraisal \$8,000 more or less than I have fixed, but not more than two engineers commonly differ. A difference of 33 1/3% in construction cost is not an unusual difference in an engineer's report.

I have in my Exhibit 5 (complainant's) a turbine building with a valuation of \$25,676. Hagenah's figure for the same building is \$30,527, complainant's Exhibit 1, which is not an unusual difference. [fol. 77] Contractors' estimates often so vary.

In my Exhibit 5 (complainant's) I have an item of \$254,004 for a 10,000,000 gallon reservoir. That item represents a careful estimate of the exact cost of reconstruction. I cannot tell what the difference between my figure above indicated and Mr. Hagenah's figure of \$300,782 in complainant's Exhibit 1—for that reservoir is due to. The finished material items involved in the construction should be identical. The difference must lie in the construction. I had included in my valuation for that item overhead, contractor's profit, architect's fees, the cost of supervision, material and labor and various other elements of that character. I could not satisfactorily state what to attribute the difference in these two values to. I would not expect to find all of that difference in material. I might find some in the materials and quantity of materials used. Both of us were using the same finished materials, not necessarily the same materials embodied in the construction work. When we reconstruct, we neces-

sarily use different material from that in the old structure. It may vary in value, not because of the higher efficiency or durability of the material but because construction methods of two engineers may be different. Other engineers may use more forms than we. They may use shoring where we do not. They may make a deeper and wider excavation. The fact is, when I present an estimate of the [fol. 78] reproduction cost of this particular structure and Mr. Hagenah presents his estimate on the reproduction cost of those two things, we would have the identical property produced by each of us in the end, though using different methods to put it there. As to the variation in cost, I would not say that it would amount to 20% to 50% as between the two estimates, but there is a variation.

In my Exhibit 5 (complainant's) I have an appraisal on water and air wells of \$105,514. As to Mr. Hagenah's appraisal of the same items of \$139,332, in complainant's Exhibit 1—or a 33 1/3% increase over my appraisal, that may in part be accounted for by a difference in construction method. I would not say that either of us had made a mistake. It occurs to me that the difference rests on a different theory of construction.

In my Exhibit 5 (complainant's) I appraise a radial brick stack chimney, 188 feet high, 6 feet inside diameter at top, octagonal base, extending 30 feet above foundation, at a reconstruction cost or value of \$13,588. Mr. Hagenah's appraisal of that item of \$21,597, in complainant's Exhibit 1, or an increase of 60% over my value is a considerable increase, and I would suspect there was a mistake in the calculations in respect to that item. I would not say that it was a mistake. I admit there are, and usually are, in engineering, discrepancies, but 60% on such a small item seems big. [fol. 79] I believe my report to be accurate. In the main I attribute the difference to engineering methods of construction, although I think there is an error some place; but there may not be, and it is not necessarily my conclusion that there is such an error.

Questions by the Court:

My opinion is that the probability is that there was an error.

Mr. McTurnan resuming cross-examination:

The Witness (continuing): In my Exhibit 5 (complainant's) I have an item of \$13,673 for landscape gardening at Fall Creek station. There is a difference of 100% between my figure and Mr. Hagenah's figure, \$5,249, in complainant's Exhibit 1, for that landscape gardening. It is a part of an engineer's business to value landscape gardening, and we purport to be able to examine and value quantity entering into it accurately and to give accurate estimate of the value of the gardening. I cannot account for the discrepancy of \$8,000 between mine and Mr. Hagenah's figures on this item. I can not account for it until I see his details. The details might involve a discrepancy of \$8,000. It is true that such a discrepancy in details would under Mr. Hagenah's appraisal be sufficient to do

all the landscape gardening. I would say that the details of the appraisal would enter into the accounting for the difference. I allow for the probability of having figured different yards of fills and things of that character, although I do not know that any such thing has occurred. Mr. Hagenah's figures and mine are the same [fol. 80] for the cubic yards of fill. We had the same item for sodding. Mr. Hagenah has 1.2 acres of seeding and we had 12 acres. I don't know which is right. I would have to refer back to the model; in fact, I would have to make a field sketch. I don't recall when I inspected this garden whether it was 1.2 or 12 acres. My impression is that I saw a good deal more than 1.2 acres. It was evening when I visited the plant. From my inspection and record I would not say positively which was right.

I believe my figures to be correct on all of these discrepancies, but I would not say that figures which were different would be erroneous. There could not be any difference of opinion in an inventory. To the extent to which there are differences in the inventory, someone is wrong. To the extent to which the differences are in the appraisal, they rest upon judgment. If I should see an error in an inventory I would correct it. I do not accept the figures submitted to me by the water company when I find they are erroneous. Of course, any one seeing the land would know that, if there were 12 acres, 1.2 acres in the inventory would be an error, and would know that, if there were 1.2 acres of land, an inventory item of 12 acres would be error.

In my Exhibit 5 (complainant's) my reconstruction appraisal on a receiving well in Washington Street station is \$22,226. It is a brick-concrete structure, 31 feet and 6 inches inside diameter and 32 feet with a 15 inch concrete casing and concrete cover. It is reinforced so that there is steel and iron in it. That constitutes the [fol. 81] receiving well. I inspected it, and the difference between my appraisal and Mr. Hagenah's of \$29,775, in complainant's Exhibit 1, or about 33 1/3%, is a difference which could arise from the method of construction, this being the case of buried construction. An engineer might use one method of construction in building this well which would be \$7,500 more expensive than another method I might use—both methods arriving ultimately at the same physical product. It is possible to reach an identical result by two different methods and have a difference in the cost between the methods of \$7,000 on a \$22,000 piece of work. That actually happens every day.

I would select the lowest figure of cost in constructing a particular piece of property, providing such method of construction was good engineering practice. Where there has been a discrepancy between Mr. Hagenah's figures and mine for various articles of construction and in cases where my figures have been higher, I would not necessarily say that his lower figures were based on improper construction. My figures merely express my judgment as to the best method. If two methods arrive at the same identical result and one is one-third cheaper than the other, I would prefer the cheaper method. The

object in reproduction is to reproduce the plant and, regardless of the method used, the same plant is produced.

In my Exhibit 5 (complainant's), in the appraisal of a 10,000,000 gallon reservoir, I have an excavation and embankment problem and I have placed the value of that work at \$16,023. The work there consists of an excavation large enough to accommodate putting in [fol. 82] a concrete reservoir 546 feet 6 inches by 258 feet 6 inches by 12 feet 2½ inches high, together with enough room for construction operations and for shoring. I have suggested everything I could think of in connection with that excavation. Mr. Hagenah arrives at a figure of \$77,909, in complainant's Exhibit 1, for doing the same work. I included contractor's profit in my item of \$16,023, which Mr. Hagenah did not include in his. Adding 10% to Mr. Hagenah's figure for contractor's profit would make his total about \$85,700 and would make his total for that work \$39,677 more than mine. That difference might be accounted for by the process of excavation. I used hand operation and drag scrapers. It might be done by steam shovels. I would have to figure to tell whether the steam shovel method was twice as expensive. It should cost less to do it by shovel; therefore, that would not account for the discrepancy between my figures and Mr. Hagenah's because his is higher than mine. I don't like to trust my recollection on the point as to whether it is possible that I figured it by steam shovel and he figured it by hand. If I could reach the same result by steam shovel for \$36,000 that he could reach by hand for \$85,000, I would use the cheaper method and arrive at equally good results in the end. It is not a matter of choice between two methods as to whether the excavation would cost \$46,000 or \$85,000; it is a matter of judgment. There can be an exercise of judgment as between two methods which will amount to a 100% difference in cost, the judgment being whether you will or not arrive at a result.

[fol. 83] Questions by the Court:

If there are no alternatives except difference in process, judgment enters as to the feasibility of the method of the low man. Conceding the feasibility of the low price determines the method. I did not understand that the question put to me assumed equal feasibility in the process. Assuming that the difference is between hand construction and shovel construction and assuming equal feasibility, the cheaper method is the one to employ and there is only one choice.

Cross-examination resumed by Clair McTurnan, Esq.:

I would not say that in a particular construction there was only one reasonable choice. The question put to me was hypothetical. I have seen the site of the reservoir on several occasions but I do not recall it. I would not say that any value could be given to the excavation for this reservoir by hand labor which could not be given to it by machinery labor. If nothing were to be gained by paying the higher price there would be no element of judgment in the accept-

ance of the lower price. I can conceive of a condition in an appraisal of this size which would result in a \$40,000 difference between engineers. I don't ascribe the difference of \$40,000 to hand labor at all. I ascribe the difference entirely to the assumed condition that would be found when you endeavored to make the excavation—whether the soil would require heavy shoring, whether there would be water seepage and excessive pumping, whether you would encounter clay or rock—all of these elements would enter into my [fol. 84] calculations. To determine what lies under it, complainant's engineers make inquiry of the engineers of the utility as to what is actually found when the excavation was made. These are reasonable processes. Engineers usually proceed so. If Mr. Hagenah and I pursued the usual routine, our engineers could have learned the same facts and we would have the same facts before us to work on.

I do not say that there would not be some way to reconcile the discrepancy, however, as a matter of opinion. I don't know of any information that an engineer could rest on in this question of excavation. I assume we ascertained the facts. I have no way of accounting for the difference. I only submitted my own figures. I don't know whether Mr. Hagenah is wrong, but I do submit my figures as correct. In my opinion, if my figure is correct, a figure twice as much would be erroneous.

I would not be surprised at all that, in comparing 75 items on a sheet taken at random from my appraisal with a similar appraisal of Mr. Hagenah's, you would find a difference in the appraisals which might vary from 20% to 75%. I never saw two appraisals which did not do that. I would believe my appraisal to be correct. I say that it is accurate, qualifying that statement with the concession that in a large collection of computations there are bound to be a few errors. I would regard discrepancies in 50% of the items on one page of an appraisal as unusual. I would be surprised if on one average page that 50% of the items, as compared with Mr. Hagenah's [fol. 85] appraisal for the same items, were inexplicable except on the ground that Mr. Hagenah was wrong. I think some of the discrepancies here have been large, excessive—yet I do treat them as ordinary occurrences in the process of engineering.

Engineers' appraisals are approximately accurate, just as contracts for the construction of the property, and you do find differences in contract bids of 100%, and on the construction of a small item it is an everyday occurrence. I believe my own appraisal to be reliable. I can not answer as to the reliability of Mr. Hagenah's appraisal.

In my motor and air well item, of my Exhibit 5 (complainant's), my valuation is \$42,652. That includes contractor's profit and cost of construction. The difference between my figure and Mr. Hagenah's of \$52,866, in complainant's Exhibit 1, I would account for on the theory that it was a difference between engineers' estimates as to an outside construction cost, not necessarily due to the method of construction. The quantity of assumed excavation may have something to do with it and the methods of construction may account for some of the difference. I have no doubt that I could build these motor

and air wells for \$42,652, and I would regard a cost of \$52,866 as too large a cost for that item. I would say that engineers' appraisals vary from 20% to 100%, depending on the selection of method used in obtaining the same result. I have not seen appraisals vary as much as 100%, on these accounts. I have seen appraisals vary 100%, however, for different reasons. They do not vary 100% on [fol. 86] a single item. It is not unusual to find an individual item in different appraisals varying as much as 100%. This is quite common. My previous answer was intended to apply to an appraisal as a whole. 100% difference in the appraisal as a whole would be quite uncommon.

I do not know that the company has been required, under law, ever since its inception, to make reports of all disbursements and income—and that is one reason why I prefer theoretical development expense to any that might be shown on the books of the company or sworn to on their report. In the second place, I have no particular reason to believe that the books would be able to show such figures as are implied by questions put to me. If I had known, as a matter of fact, that the law of 1865 (under which this company was incorporated) required it to keep and report in detail its expenditures and disbursements, showing the classifications thereof, and that the law as amended in 1913 required them to file an even more detailed sworn report, and if I had known that figures had been kept, I might have desired to inquire of the company as to what these books showed in respect to the going value. But that does not necessarily mean that going value and development costs are the same thing. If the company had said to me that its books showed a going value of 30% and had given me the exact figures for most purposes, I would still have used my 15%. I would not have refused to use what the books showed, if insisted upon, but I would have refused to take the responsibility for it.

[fol. 87] Questions by the Court:

I would have incorporated the book figures and specified that they were not my figures, and I would feel that I had been discharging my duty in that respect. If I assumed that I was to use my own judgment I would not report as my figure their book figure if it were 30%.

Cross-examination resumed by Clair McTurnan, Esq.:

As to overheads, assuming that I knew that the amount of overheads actually incurred by the water company had been 7%, I would have used my figure of 15% and assumed the other to be irrelevant. The 15% is based on my experience. If it appeared that the conditions in a specific case, at a specific locality, showed that overheads were less than elsewhere, then I would make allowance. I would not accept the book overheads if I believed them to be correct, because the construction method might not be the same. In making a reproduction value appraisal I exercise my judgment

is to the present value. I have no method of determining the appreciation in land value. I accepted the statement made by real estate experts.

In determining water rights, I took the value of the land on the appraisals given me by the company. I did not duplicate by appraising land value and also the overflow of the land. If that were done it would be erroneous.

[fol. 88] Interruption.

Questions by William A. McInerney, Esq.:

I have considered the percentage difference in my total of a three-year appraisal summary and Mr. Hagenah's—that is, the physical appraisal—and find a difference between them of \$1,271,033, or 5.6%. Mr. Hagenah's figure is the higher one.

Cross-examination resumed by Clair McTurnan, Esq.:

I do not recognize any substantial error in my appraisal. The figure I have just given proves that. I did recognize substantial error in particular items, but as compared to the total they are very small. The results which Mr. Hagenah and I reach above happens to be very close. I would not say that it was an accident; I would say that it would indicate good engineering judgment on both sides.

It does not seem remarkable to me that while on the item of laying down one piece of pipe I should charge 50% more for the work than Mr. Hagenah does and that similar mistakes should occur, and balance one another so as to bring our totals within 5.6% of each other. On the contrary, it is the invariable history of all such estimates that there are such wide individual discrepancies, but that in well balanced engineers' estimates the totals agree fairly well. The difference of 5.6% between these two appraisals constitutes a vindication of both of them. I admit that on just such a piece of work as a reservoir along White River there might be a [fol. 89] 100% difference in the estimates of the two engineers. I would not admit that there was an error in this. My figures on that item are \$46,023 and Mr. Hagenah's \$87,700. I would expect to find the same difference in other items, but would not expect to find an ultimate result in which my appraisal would be twice as large as Mr. Hagenah's or Mr. Hagenah's twice as large as mine, because the result of all well made engineer's estimates is that there are wide discrepancies in small details, but that over all they balance one another and produce a general, even result, and where they do not the contractors who make mistakes go out of business.

There is nothing peculiar about these discrepancies, because of the fact that notwithstanding them the ultimate calculations bring about a correct general balance. There is a general balance as between the two appraisals and nothing peculiar that produces it. It is possible that in the estimate of the cost of reproduction of a chimney or building, two engineers appraising the chimney or building, and that alone, and both using well-exercised opinion,

might vary 100%. I use just as much care in the appraisal of a particular individual item as if I were going to construct that piece of property. Mr. Hagenah's estimate and my estimate are not irreconcilable with two similar processes of construction in respect to the reservoir. The question of excavation involved there was one on which engineers might vary a great deal and both show good judgment.

[fol. 90] JOHN JIRGAL, a witness called on behalf of complainant, being first duly sworn, testified as follows:

Direct examination.

Questions by Fred Bates Johnson, Esq.:

The Witness: I am a certified public accountant, with residence in Chicago. I am a member of the firm of Arthur Anderson & Company who do business in New York, Kansas City and Milwaukee. They are certified public accountants.

I have done considerable work for the Indianapolis Water Company recently and have prepared some data referring to the balance sheet of the company as of March 31, 1924, and an income account from January 1, 1922 to March 31, 1924. I have prepared a statement of the city, county and local taxes of the company applicable to the years ending December 31, 1922 and December 31, 1923, and a statement of the net additions to this property from May 31, 1923 to March 31, 1924. The balance sheet of March 31, 1924, in my Exhibit 15 (complainant's) requires no comment, except that the book value of the property is \$13,334,197.52. In that exhibit is a condensed income account covering the years 1922 and 1923 and the first three months of 1924. The net revenue or, technically, gross income for the year 1922, before deducting depreciation, was \$933,192; after depreciation \$845,985. Such income for the year 1923, after depreciation, was \$902,368 and for the first three months of 1924, after depreciation, \$252,537.

[fol. 91] In complainant's Exhibit 15 I carry items of additions to property, or gross additions less retirements, from May 31, 1923 to March 31, 1924. These items amount to \$732,554, and the same items for the period from January 1, 1924 to March 31, 1924 amount to \$111,912, making a total of net additions from May 31, 1923 to March 31, 1924 of \$844,476.

In complainant's Exhibit 15 are shown county and local taxes applicable to the years ending December 31, 1922 and December 31, 1923. This shows the actual taxes assessed during these years, the valuation on which assessment was made and an average rate in the case of each township for the property as a whole. That includes property in both Marion and Hamilton counties. A weighted average tax rate is shown, obtained by the total assessed valuation and dividing it into the total of tax paid by the company. The weighted average for the year 1922 was 2.171 and for 1923, 2.286. The assessed valuation for 1922 was \$10,637,510; for 1924, \$12,090,-

300. The total taxes paid in 1922 was \$241,577.32 and the total taxes paid in 1923 was \$276,337.74—total state, county and local taxes. The 1922 taxes are payable in 1923. As to the 1923 taxes, I do not believe all of those have been paid yet, but those are the items fixed for the different assessing units of taxes of 1923, payable in 1924.

I have made an estimate of what the water company would have received for the year 1922 had Order No. 7080 been effective during the year 1922. That is shown in complainant's Exhibit 16.

[fol. 92] In 1922 our firm made an analysis of all the consumers of the company, showing in the case of flat rates how many different kinds of services, faucets or bath tubs, there were on which the flat rate was based. I also made a complete analysis of meter consumption to find how much consumption fell in each rate grouped. By referring to the consumer analysis of the actual rates ordered by the commission, we estimated that the commission's order for the particular year for which the data was available would have resulted in an increased revenue of \$186,795. In making this analysis we took each individual customer and his consumption for each month. That was a task of considerable magnitude. It took about two months. We had a force of five or six people constantly on the job.

The total increase under Order No. 7080 of the Public Service Commission for the year 1922, if it had been applied then, would have been \$186,798 more than the actual income. I made this calculation in respect to 1922 because I had the correct data for that year, and I would not be able to tell accurately how the consumption of 1923 would be distributed. You could as a matter of fact prepare the same customers' data for 1923 as for 1922, but that would be a task of the same magnitude.

I have made an estimate of the gross revenues for the year 1924. Complainant's Exhibit 17 is an estimate made by me of the probable revenue for the year 1924. It has been based on consumers' analysis, modified by what the consumption actually was in 1923 and further modified by allowing for additions in number of customers during 1924. It too takes into consideration the rates calculated under the commission's Order No. 7080. It includes both the elements of increased rate and increased volume of business. There is some slight allowance made in it for a larger meterization in 1924. We were informed, according to the company's estimate, that there were about 2,000 new customers who would go from flat rate to meter basis this year; but we assumed that 2,000 could not be put on the full year and took an average of about 1,000 customers. That is the consideration we have given to meterization.

The total operating revenues for the year 1924 are \$2,136,849, and non-operating revenues \$25,531. That is the same as in 1923.

Cross-examination.

Questions by Taylor E. Groninger, Esq.:

The total revenues for the year ending December 31, 1923 were \$1,840,971.20. My estimate of revenues for 1924 is \$2,136,849, an approximate increase of \$295,000. In arriving at these figures I have given consideration to free services to be placed on charge in case of the city. I have estimated those amounts would be approximately \$19,000. The figure I allowed is \$24,000 and the actual payment last year was \$6,000, so there is \$18,000 for that [fol. 94] increased use. This is included in the increase of \$295,000. I know of no other free services that have not been billed the city. I understand that the city was billed the flat rate of \$2,200 for the city fountains. I understand that the flat rate covers all that can not be measured. That amounts to \$2,200. I understand that meterization of all city services in accordance with the commission's order is impracticable. I think that street flushing is included in the \$2,200, and I think everything is so included which the city will ultimately be billed for.

The gross revenue for the first three months of 1923 was \$522,730. The increase of gross revenue for the first three months of 1924 over the first three months of 1923, under the old rates is \$81,223.

Complainant's Exhibit 15 shows a tax value of all the Indianapolis Water Company's property, which includes that in Marion and Hamilton counties and constitutes all the property of the water company, operative and non-operative, at \$12,090,300. The book value as shown by that exhibit is \$13,374,197. Generally speaking the book value does not represent the actual original cost, but far from it. I have made no study as to whether \$13,334,197 represents the actual cost.

Redirect examination.

Questions by Fred Bates Johnson, Esq.:

There has been some reference to interest on bank balances of the Indianapolis Water Company. The company, of course, does [fol. 95] not have to pay its taxes until probably a year after they have actually accrued, that is, there is retained a certain amount of cash awaiting that payment, similarly with bond interest. They put up every half year a certain sum in the bank, and in some cases it is required that the company deposit so much monthly to meet the demand. They get from 2% to 4% interest on these accumulated funds in the bank. The same is true of dividend money and everything except straight operating expenses. Those are accounts accrual that may be represented by balances in cash; or, the full amount might not be in cash, since some, as in the case of tax accumulation, might be used temporarily for any kind of purpose—but there is a tendency to have that cash balance there awaiting that payment.

Questions by the Court:

Complainant's Exhibit 16 shows the income or additional revenue which would have been derived for the year ending December 31, 1922, had the rate under the order here in question been applied during that year. That exhibit is based upon an examination of the consumption by customers of the water company.

In complainant's Exhibit 17, in forecasting the revenue of the coming year, results were obtained on the following basis: In the case of meter customers, we knew the average consumption per month in 1923, and in that year every month showed an increase in the number of customers, so at the end of the year they had more customers. The assumption would be that this would be carried forward, and we have carried it forward, applying it to the total number of customers [fol. 96] at the end of the year, and we have the additions for new customers this year, meter 3750, that would come in during the year, and the average for the year would probably be half that sum.

As to what was done in regard to finding a basis for 1924 as to the total water consumption that would have to be allotted to different classes of service, the company had available an accumulation of data showing the amount of water sold each month. We made the analysis for 1922 showing the percentage that falls in each rate group during that year. Modifying that by a consideration of what rate group the new business of 1924 will fall in and using the average income of 1923, we estimate the 1924 yield.

Complainant's Exhibit 17 is based on an analysis of the experience of the company in 1922.

Recross-examination.

Questions by Mr. Groninger:

I do not know that the experience of the company is that the revenue for the first three months is equal to one-fourth the revenue for the whole year. As to the revenue from flat rates and from municipal hydrants, rentals for the first three months of the year would reflect about one-fourth of the total revenue from those sources. Metered rentals are very uncertain. In the first three months of last year the meter consumption was lower than the average for the nine months, so that that factor would not apply to meter consumption. [fol. 97] Therefore, the figure of \$91,000, as showing approximately one-fourth of the total increased revenue for the year 1924, over 1923 would have to be modified by the meterization factor. I do not think the figure supports the conclusion that I am taking into consideration the increased demand of water supply in the summer months over the demand in the months of January, February and March. The company has its meterization among its large consumers, industrial principally. During 1923 there was a large industrial demand. Taking the principal industrial consumers of the company there was a 30% increase in the demand over 1922, and 1922 was an average business year, so that as to the 30% increase in consumption it is

doubtful whether it will be maintained. What I have definite on the matter is, that I know the first three months of meter consumption was less than one-fourth and was not a fair index for the balance of the year in the case of the meter consumer.

LEONARD METCALF, a witness called on behalf of complainant, being first duly sworn, testified as follows:

Examination-in-chief.

Questions by William A. McInerney, Esq.:

I live in Concord, Massachusetts. I am a civil engineer of the firm of Metcalf & Eddy, of Boston. The firm practices in the field of water works and sanitary engineering and deals with valuation management and rate problems. My engineering work began in 1888. I am a graduate of the Massachusetts Institute of Technology, [fol. 98] '92; was employed by water works and hydraulic builders in 1888, by Wheeler & Parks, Boston, until 1895, when I went to Amherst, Massachusetts, as professor of mathematics and engineering in the Massachusetts Agriculture College; returned to Boston in 1897 and began private practice, ten years later forming a partnership under the present firm name.

I have been familiar with the Indianapolis Water Company since 1907, having made an inventory and valuation of the property and have acted as consulting engineer of the company in different ways since that time. In this capacity I have given consideration to valuation rate and construction problems, and about two and one half or three years ago began to study the future demands of the service of the company in Indianapolis, with a view to outlining desirable progressive additions and betterments of the plant. This study resulted in a report treating the betterments of the plant which would be desirable within the next five or ten years.

Incidentally, I made a financial study of the past of the company, for the past six years, to see what the earnings had been, and a forecast for a period of five years in order to determine what the probable earnings would be. Such forecast was made for what bearing it would have upon the ability of the company to command capital necessary to make betterments. This study involved the distribution system of the city particularly, and I have a map (complainant's Exhibit 18) which shows the distribution system and the work recently done on it. The red lines on the map show the extensions made to [fol. 99] the pipe system in 1923. The weight on the lines on that map indicates the relative size of the pipe, the heavier line showing the larger pipe. The light circles indicate the distance in half miles from the center of the city. There are shown on this plan three pumping stations—Riverside, Washington and Fall Creek—and an additional small station on the north, Broad Ripple station. The dotted lines as distinguished from the full lines indicate the pipe

reinforcements to be made in the future as demand may require. The small, light dots indicate a population of 20 persons. The indicated population is based on the basic map prepared by the City Planning Commission. The pipe system is put on from the maps of the company.

I have prepared complainant's Exhibit 19 to indicate in concise form the results of study for progressive extensions and betterments. This study goes back over a period of about two years from May 7, 1923. The population study is based on the United States census and school and voting population records of the consumers and it is in fair agreement with the independent work of the telephone company, but indicates a population somewhat less than accepted by the Chamber of Commerce of Indianapolis.

After making a study of the population, I made a detailed investigation of the water consumption, with a view of determining the possible future consumption, the necessary mains, pumping stations and other equipment. This was done by dividing the city into districts, shutting the gates around the districts and actually [fol. 100] measuring for a period of twenty-four hours the water consumption of a district. We then determined the population approximately of the district and forecasted the population and probable consumption. This unites the population study and the consumption study and, with the estimate of future consumption based on the whole population, is the probable per capita consumption. The estimate thus found was a basis for determining the diameter of the pipes for reinforcement of the existing system, which indicated the weakness of the system north and south and the advantage of a different method of supplying the city. The pipe system has been reinforced in accordance with the plan to the north by laying a 24 inch main, as shown in complainant's Exhibit 18. This runs from the east side of White River to the Riverside Station and easterly through Eleventh and Thirteenth streets and northerly through Park Avenue. The pipe line reinforcements to the south have not been built, but portions of the work will be done this year and the remainder the year after, if the present plan carries. Reinforcements by laying 15 inch pipe in Michigan avenue and connecting with 20 inch main on Massachusetts avenue, have been made, and permits change in the operations previously referred to, the object being to supply the east and southeast portions of the city through the Michigan Street Booster Station, which is supplied from the main Riverside Station instead of Fall Creek Station farther away, the distance from the centers of gravity supplying the demand being less under this method than under the previous one. [fol. 101] Like studies were made as to reinforcements of pumping stations and to increase filtering capacity, the increase beginning immediately in a storage capacity in order to have a supply of filtered water ready for use in an emergency for conflagration and to equalize the demand on the filtration plant, and other reinforcements necessary to maintain a desirable standard of service. They indicate under a metered basis the expenditure of something over

\$3,000,000 in from three to five years, beginning with 1923. These expenditures are \$3,200,000 on a meter basis and would be about one-fourth more if the old flat rate basis should be continued. My estimates went still further, but are not of particular interest here except to indicate the substantial additional sums which will be invested probably to maintain the service with a probable rate of growth. I outlined the construction of \$983,000 for 1923 and the actual betterments were \$876,000. The prices I used in forecasting the cost were below the actual prices paid in 1923. In view of that, I think the proposed construction will overrun rather than under run my figures, particularly in respect to the cost of labor and material.

The laying of the 20 inch main and the 20 and 16 inch mains in the heart of the city, referred to by me, will not increase the income on the mains because they parallel existing mains. They have bettered the service and give added capacity to existing mains which they serve, but in general these works, like others in this country, have felt the effects of the war in respect to construction work, and that has resulted in using up the margin of safety in the [fol. 102] work, and new construction must take place to restore an adequate margin of safety to meet future conditions, or, in other words, to bring back a normal condition of service.

Of the \$876,000 spent for betterments I happen to know that about one-half of the sum was for big mains which merely tended to improve the service, although I would not attribute the balance of the \$876,000 to improvements which contribute directly to the increase of business. One-half of the total amount will not enjoy an increase in revenue as the other would.

There is necessity for another feeder main to the southeast and one to the north. The north one has been nearly completed. It was laid the latter part of the winter and early spring of this year.

I made a study of the past earnings with reference to the rate of return of past earnings on many of the valuations fixed on this property by the commission. That is part of my report. I have brought it up to date in the light of more recent decisions of the commission. I think you would rather have it in these terms than in the terms of my report.

My report also suggested betterments for 1924. I have prepared a couple of exhibits, indicating the additions and betterments, and which show expenditures to date of March 31, 1924. The order of construction in the extensions will vary somewhat from those contemplated in my plan of May 7. The aggregate is about the same.

[fol. 103] In respect to complainant's Exhibit 20, I have only to say that the 1924 additions and betterments thus far authorized amount to \$619,000 and expenditures to that date \$103,000. By authorized I mean definite authorization to make contracts, contracts being actually made in many cases. That does not include all the betterments which will be made this year, but the additions will be made as the finances of the company permit.

In complainant's Exhibit 21 I have shown betterments not shown

in complainant's Exhibit 20. These additional betterments to the filter system will probably take the form of extending the present plant to occupy the place of for an additional bed and utilize the present sedimentation basins and other accessories. A filter plant, probably of 6,000,000 gallon capacity, at Fall Creek Station, to make available water from Fall Creek, is included (as to this I have assumed that half the cost will be incurred this year; the rest next); the reservoir item of 5,000,000 gallons daily capacity, which is one-half the capacity I think should be built at Fall Creek; I assume the remaining half will be built the following year. A standpipe at Butler, encased in masonry; a short conduit under Fall Creek to duplicate existing conduit to prevent danger of interruption of service arising from possible lack of integrity of the single pipe; additional wells at Fall Creek; flume cover; additional taps; 5,000 meters; dike at Riverside which the company is starting on account of flood prevention work along Fall Creek; a small dike to protect Riverside Station; 36 inch main supply pipe to connect [fol. 104] Riverside Station with the end of the 24 inch pipe laid last year; about 30 miles of distribution reinforcement main, authorized and shown in greater detail on complainant's Exhibit 20; additional distribution pipe growing out of the need of reaching other sections later in the season; some small land purchases, chiefly in the neighborhood of Fall Creek station for the filter plant which will be built, and necessary structures. The subject matter of complainant's Exhibit 20 is included in its Exhibit 21.

I have made an estimate in blue print form of the growth of the annual revenue for the recent years and the probable revenue for 1924 that is contained in Exhibit 22, purporting to be a statement of the gross revenue from 1921 to 1924 inclusive. I have shown on that exhibit the actual operating and non-operating revenues earned in the years 1921, 1922 and 1923; also in two months, January and February of the years 1923 and 1924; on the right side of the sheet the three months' earnings of the year 1924 prorated for a twelve month period in the ratio of twelve months to three months. The prorated 1924 amount shown besides the 1924 January and February amount is predicated on the two months' earnings, which is all I had at the time I made my first forecast. The three months' earnings I obtained a few days ago. In the next to the last column I have shown the 1924 revised figures which constitute my estimate of the probable revenue for the year 1924. This is \$67,000 less than Mr. Jirgal's estimate. The estimate for hydrant rentals for 1924 is predicated on the method of computation contained in Order [fol. 105] No. 7080 of the Public Service Commission upon the pipe system as it stood January 1, 1924. It is \$320,753. The increase during the year which will result from a continuation of my construction program would be about \$21,000. I assume that this would only apply to a period of four months. The construction season has just begun and there remain but nine months in which to do the work. That would show \$7,000 increase in income. My impression is that the increase will be within this sum; perhaps not over \$4,000 or \$5,000.

I have made a study of the operating expenses during the recent years and made an estimate for 1924. Complainant's Exhibit 23 purports to be such an analysis and covers the operating costs from 1920 to 1924 inclusive. The operating expenses for the first three months of 1923 are compared with three months of 1924, and in the last two columns of the table are the twelve months' conditions prorated on the three months of 1924, and my revised estimate is based upon the prorated figure, and certain other considerations are set out. The general groups follow the company's method of accounting. The memorandum concerning the pumping shows the actual figures for 1920 to 1923 and for two or three months of 1923 and 1924 and the forecast for 1924. As to pumping, the appreciated forecast would correspond to 12,000,000,000 or 13,000,000,000 gallons—perhaps nearer 12,000,000,000 gallons because of the effect of the 5,000 meters will not be felt until the last of the season.

[fol. 106] The operating expenses for 1924 prorated on a three months' record would be \$593,000, which is comparable with \$530,000 for the year 1923, and to \$482,000 for the year 1922 and my final figure of 626 for the year 1924. The last figure indicated an increase in operating expenses, which is due to the change from a 12 to an 8 hour pumping shift and a change from a 6 day to a 7 day week, and also to the fact that the filter capacity has been reached and the increase of costs in operating the filter plant. The increase is due to higher standards of purity. The introduction of the 8 hour shift would involve somewhere between \$28,000 to \$30,000 increase, \$5,600 of which is reflected in 1923 and leaves about \$22,000 to \$25,000 which will be reflected in the 1924 record.

The other large item of increase is shown on line 7 of Exhibit 23, and is for the amortization of the costs of valuation and rate suits. The total costs incident to obtaining Orders 6613 and 7080 and for proceedings now under way are \$174,000 which, if amortized in five years, would make about \$35,000 a year. The actual present rate of amortization is about \$9,000 as reflected by the 3 months account in 1924; with additional sums to be amortized there would be an increase in the annual amount of approximately \$26,000. In 1922 there was \$3,500 amortization; in 1923 \$8,250, leaving a balance of about \$162,000. "I have done this because I understand that to be governed by Rule 190 of the Indiana Commission's Uniform System of Accounting for Water Utilities."

[fol. 107] Exhibit 23 shows the taxes which have increased progressively from \$286,000 in 1920 to \$339,000 in 1923; and prorated taxes for 1924 amount to about \$380,000. This estimate, however, which is carried on the books of the company is revised by me to \$440,000, because of my understanding of the method which the tax board will employ in the 1924 valuation, as shown in my Exhibit 24 (complainant's). In treating taxes I have based my computation, first, on the Public Service valuation, No. 7080 and, secondly, on complainant's valuation contended for in its bill of complaint in this suit. I understand that the tax commission holds that the tax base should reflect the full value of the tangible physical property,

and that the finding of this court will be used as the base. Complainant's Exhibit 24 is prepared on that basis. To the commission's valuation (May, 1923) of \$15,260,900 I have added for non-operative property \$649,000; for betterments less retirements, \$805,000, and I have deducted the intangible property found by the commission, \$981,000, leaving the tax base at \$15,735,000. Applying the average rate of 2.28% for state, county and city taxes, the tax in round figures is \$359,000; adding the Federal capital stock tax of \$3,300, the total tax for the two items is \$362,000.

In arriving at the Federal income tax to be charged, I have taken the gross annual revenue as shown in complainant's Exhibit 22, \$2,156,000. I deducted the operation and maintenance shown in defendant's Exhibit 23, \$623,000, leaving a balance of \$1,533,000. To this I have added the amount of the donations, which I understand [fol. 108] stand cannot be deducted from the tax paid. I have also added public liability insurance, reserve, income, and depreciation fund, investments and allowance for surplus, and additions, the exact amount of which I do not know, but which last year were about \$10,000, and that makes a total of \$1,563,000. From this I have deducted city, county and state taxes, \$362,000, leaving \$1,201,000. I have deducted also the interest on bonds and sundry interest, and the amortization of the bond discount aggregating \$432,000. This deduction leaves \$758,600. I have added the net income of the Indianapolis Water Works Securities Company, \$251,000, and deducted dividends received by it, \$400,000, and other income, \$2,600, and the amortization of its bonds \$7,100, leaving a base for income taxes of \$620,300. Applying the Federal income tax base of 12½% to this sum, I found the amount for the tax for the year 1924, based upon the commission's valuation, to be \$77,538. This is added to the other tax, giving a total of \$440,000, as shown in complainant's Exhibits 23 and 24, they being combined in the income tax returns, as I understand.

I have worked up the same tax data using a different basis valuation, that is, the contended valuation as set out in the petition of the company of \$18,641,000. Complainant's Exhibit 25 shows the tax calculated on that basis, and results in a \$57,000 increase of taxes over the lower basis, the procedure in calculating the tax being identical in the lower and higher valuation.

In complainant's Exhibit 26 I have assembled and compiled the data contained in complainant's Exhibit 22, the gross revenue, and [fol. 109] in Exhibit 23, the operating expenses, showing for the years 1921, 1922 and 1923 the net earnings and, in a general way, disposition as between interest, dividends and balance, and also a forecast for the year 1924.

On line 1 of Exhibit 26 the operating revenue is shown to be \$2,127,000, and on line 8 the non-operating revenue is \$29,000. The operating expenses on line 2 are \$623,000; this appears in Exhibit 23. The taxes and depreciation for 1924 are shown on line 4, Exhibit 26, and this is in accordance with complainant's Exhibit 23. The depreciation allowance is that authorized by the commission in

its order No. 7080; the net earnings thus resulting are \$958,000, which compare with the net earnings of \$769,000 in 1921, \$846,000 in 1922 and \$902,000 in 1923.

In line 10 of Exhibit 26 are shown deductions on account of interest on the funded and floating debt. For three years, 1921 to 1923, the amount is \$285,383, and for 1924, as assumed by me, \$540,000. This \$540,000 is for interest as shown on the right-hand side of the page of Exhibit 26. This includes not only interest on outstanding bonds, but a 7% rate upon the additional construction or betterments and extensions of \$1,304,000 for 1924. Now, as a matter of fact, the interest on construction undertaken during the year would not run for the entire year. The sheet in complainant's Exhibit 26 shows the conditions at the end of the year, and the actual amount might be \$70,000 less than the \$540,000 there shown. [fol. 110] If the dividends be paid as in the past three years, \$400,000 as shown in Exhibit 26, there would result a balance in the 1924 forecast of from a negative \$10,000 to a positive \$60,000, the range corresponding to the failure to earn the interest for the full year on the new construction. As I view it, the rate now in force will leave the company with practically the same dividend paying power, and balance at the end of 1924, as at the end of the year 1923, under the old rate. In other words, the increase in taxation and the additional demand for additional capital put in the plant during the year will eat up the increase in rates, or absorb the increase in rates, and leave the property in substantially the same condition.

The income from the new rates will give 5.1% on the company's claimed valuation as of December 31, 1923, \$18,641,000; if the betterments during the year are added to this, the return will be about 4.8%. It is a little less than 6% rate on the valuation of the commission.

Complainant's Exhibit 27 is a graphic sketch of the exhibits heretofore discussed by me. It shows the forecast of revenue, operating expenses, taxes and depreciation, not only for the year 1924 but for the two years following, and the actual conditions obtaining under the rate prevailing in the previous years from 1916 to 1923. At the bottom of complainant's Exhibit 27 I have shown the resulting rate of return upon two bases: the first, the Public Service Commission's value, in 1917, of at least \$9,500,000; second, the value under Order No. 7080, brought down to date approximately, \$16,000,000.

[fol. 111] I had to make an assumption in regard to the appreciation of property, in the interval, in complainant's Exhibit 27, and this assumption takes into consideration the betterments and retirements on the plant, which will amount to about 38%. The rates of return are shown to increase on complainant's exhibit progressively from 5.1% to 5.9%, and for the three years following there will be about 6% return, making the same computation in a similar manner on the company's contended value of \$11,000,000 as of 1917, at which time the reproduction cost of the property was found by the commission to be \$12,000,000 or thereabouts and the December, 1923, valuation of \$18,641,000, set up in the company's bill, the

rate would increase from 4.1% approximately in 1918 to 5.1% in 1923, and about 5% for the three following years, assuming betterments and extensions and growth of plant already referred to.

In column 2 of complainant's Exhibit 29, which is to be considered with complainant's Exhibit 28, I have shown the fair value of the property and the rate base as found by the commission for the year ending December, 1916, at least \$9,500,000. In the foot of the column is a valuation of \$16,013,000, which, as described in the foot note, is found by adding betterments to the commission's value of \$15,268,400 and deducting accrued depreciation. In column 3 of complainant's Exhibit 29 the betterments at actual costs are shown. They aggregate for 1917 to 1923 \$2,536,000. In column 4 the depreciation allowance is shown in aggregate \$573,800, in round figures. Column 5, retirements approximately \$104,000; column 6, [fol. 112] the difference between depreciation and retirements, \$470,000. Had I added to the rate base of \$9,500,000 as of December 31, 1916, the difference between the betterments and appreciation, less retirements, I should have gotten a sum less than \$16,000,000 as of December 31, 1923, by the amount of appreciation during this period. The method of distribution of appreciation during the period is wholly a matter of judgment. I have assumed practically 10% per annum for four years. I believe the actual appreciation was more rapid. Using the assumed rate, I find that the appreciation is \$4,447,000 or 38.4% on what it would have been had there been no appreciation. The method of computation is shown in the foot note.

In column 2 of complainant's Exhibit 28 is set out the rate base as of the beginning of the year, year by year. The rate bases in complainant's Exhibit 28 are taken from complainant's Exhibit 29. In column 3 the commission's fair rate for the period of 8% is utilized. Whether that rate should apply to the year 1923 as well as to the earlier years I cannot say. The actual operating expenses are shown in column 4; the actual tax, column 5; depreciated allowance, column 6; combined allowance of operating expenses, taxes, depreciation, column 7; equitable gross annual revenue, or combined amount of taxes, depreciation and expenses, column 8; gross annual revenue, column 9. The gross revenue is about 81% of the equitable gross annual revenue from 1917 to 1923 inclusive. The deficiency during that period below the 8% on said basis would have been [fol. 113] slightly over \$2,000,000. Column 13 shows a net annual revenue, or the difference between the actual revenue and the sum of operating expenses, taxes and depreciation actually found and set aside, and which was approximately 5.4% during the period of years under discussion. Betterments of \$2,016,000 are shown in column 15. On the lower sheet the forecast is based on the 7% return on the rate base of the commission prior to December 31, 1923, increased by betterments, then decreased by the depreciation less retirements. I have taken the 7% rate of return to make the exhibit consistent and to conform to the finding of the commission. I find the result in column 14, 5.5% in 1924, and averaging 6.1%

for the three year period from 1921 to 1926 inclusive. In my judgment such a rate of return will not be adequate to command the capital necessary to make betterments outlined and desired, and which are reasonable.

On the basis of the company's contended value as of \$11,000,000 in 1917, and \$18,611,000 as of December, 1923, I get an actual return during 1918 to 1923 of 4.7% instead of 5.4% on the commission's value basis; and forecasting it for the three years I get 5% instead of 6.1% on the commission's valuation basis. The appreciation I make on the company's value basis to be 43%, approximately, as compared with 38% on the commission's basis. These computations are set out in complainant's Exhibits 30 and 31, which indicate the rate of return earned during the six year period from 1918 to 1923 as 4.7%. These exhibits are on the same basis, other than as to value, as Exhibits 28 and 29.

[fol. 111] I have made a study of what the company was compelled to pay on its borrowed money. Some years ago I made a computation of the actual cost of money to the company upon bonds sold by it, taking into consideration not only the discount upon the bonds but the cost incident to their sale. I found that the range of cost was from 9.69% to 6.35% from 1870 to 1880 (the bonds were issued by the predecessor company), and from 6.19% to 6.16% in 1881 to 1889.

Limiting my statements to recent years, I find that the cost of money from 1913 to 1915 on bonds was 5.27%, and from 1921 to 1923 6.3%. The average cost during the past ten years was 6.19%. The average on the preferred stock between 1920 and 1923 was 8.5%. This rate was high because the preferred stock was refinanced with bonds, and the premium had to be paid. The rate on preferred stock was 7%. They sold at 95 and there was some costs. In 1920 there was sold \$295,000 face value of preferred stock; in 1921, \$560,000; in 1922, \$152,000—a total, I think, of \$1,017,000.

I would say that a reasonable rate of return for this company to carry out its program as outlined would be 7½% to 8%.

I have made no exhibit, but have made an analysis of the company's operative and non-operative property. The commission staff in 1922 set up \$650,000 estimate of property of doubtful usefulness. The non-operative property as rejected by the commission's engineer consisted in part of a substantial amount of land upon which are [fol. 115] located wells, some 43 in number, from which the ground water is pumped at the Riverside Station. At the present time 15 to 20% of the water furnished the city is supplied from wells, the balance from filtered water of White River. The well water is cooler by about 20 degrees than the river water. The cost of developing water from wells is less than by other methods. The wells take care of a peak load under heavy fire demands or in case of a breakdown. The Riverside or Fall Creek Station could furnish nearly enough water to take care of the city, because the Riverside wells have a capacity of 18,000,000 gallons and the Fall Creek wells have something like 7,000,000 gallons. The average daily consumption is

22,000,000 to 23,000,000 gallons, and the maximum demand is 30% higher.

The engineer of the commission has allowed only the land that the well occupies and the narrow strip over the pipe line to the site of the well.

I assume the tract on which these wells are located should be held by the company for the protection of the quality of the water and for future extension of the well system. The total amount of land is not extensive as compared with other communities which are using ground water supply. It is true that these lands being near the city and the golf links appreciate in value. If the court holds that these lands are too extensive and should not be included in the rate base, it drives the company to get rid of the property, because it could not stand a material reduction in the rate of return and [fol. 116] raise the money for additional betterments. The better policy for the company to pursue would be to give up the wells and build large filtration plants or additional filtration plants at Fall Creek, as now under contemplation, to take care of additional demands. If the lands are once sold they will, in my judgment, be immediately built up to greater or lesser degree. Because of their proximity to the golf links and their desirability, and the betterments on them, it will be impossible, in my judgment, to repurchase them. I have not excluded these portions of land which the commission's engineer has excluded, as previously described. I have excluded one tract which was bought for storage purposes, but does not seem likely to be utilized for such purpose. They total \$50,000.

The Washington Street chimney, \$4,480, I should have charged to depreciation. I have eliminated \$4,086 in general equipment. I have eliminated lots having value assigned by the Public Service Commission of \$5,200 and also small lands in the vicinity of the filtration plant aggregating \$500. As against the commission's engineer's deduction for non-operative land of \$648,000, I should make a deduction of \$38,000.

Questions by the Court:

A considerable number of wells has been driven in the last 15 or 20 years. Tracts of land referred to by the Court are about 240 acres. In my judgment, further wells should be and will be built unless the burden is thrown on the company. In other words, the [fol. 117] advantages of ground water storage is a real one because of temperature and the ability to get water under different conditions and without filtration. It has been planned to develop the well first, although it would be possible to develop the other lines more rapidly and get away from well supply and release those lands to other uses. The point of view is, that in a city the size of Indianapolis the recourse is increasingly to other sources than wells, and is absolutely right. The larger the consumption the greater the necessity for methods other than the well method we will hold on to the wells. However, I think we shall be forced to the river for the new supply. We will continue to use the wells as long as we can because of the potability of the water and the greater economy.

(Cross-examination of the witness is deferred to permit other witnesses to testify immediately.)

JOHN C. McCLOSKEY, a witness called on behalf of complainant, being first duly sworn, testified as follows:

Examination-in-chief.

Questions by Joseph J. Daniels, Esq.:

I live in Indianapolis and am a real estate appraiser. Have been in the real estate business for 30 years and engaged in appraisal during that time. I have appraised during that time real estate as the Inheritance Tax Appraiser for the City of Indianapolis. At the request of the Indianapolis Water Company I made an appraisal of the [fol. 118] fair value as of December 31, 1923, of all the real estate, exclusive of buildings and improvements, of the water company. I made this in conjunction with Mr. Appel. Each piece of property was visited. I have obtained the property list from the Indianapolis Water Company. Mr. Appel is an appraiser. Complainant's Exhibit 32 is a copy of the different tracts of land and their appraisal and summary. The summary shows the total property appraised. The total appraisal is \$3,014,647 and the separate values are shown tract by tract.

Cross-examination.

Questions by Mr. Groninger:

The real estate was appraised in the terms of market value of other real estate in the same community, as nearly as we could find the criterion.

Mr. McInerney re-examining:

There is no allowance in my figures for alleged severance values in connection with the canal, that is, no additional value given because the canal land is a long narrow tract as being more expensive than a rectangular tract.

[fol. 119] Mr. HAGENAU recalled for further cross-examination.

Questions by Mr. Groninger:

I have eliminated columns 4 and 5 from by Exhibit 4. With these eliminations, that is, the elimination of the 15% overhead allowance and the appreciation of the land, and with the addition of actual expenditures for overheads as shown by the books of the company, there is a net deficiency in returns on a $7\frac{1}{2}\%$ basis amounting to

\$1,522,100. There is a deficiency in income compared to the $7\frac{1}{2}\%$ return for each year from 1870 to 1911. There is a return in excess of $7\frac{1}{2}\%$ from 1912 to 1923, except for the year 1918, during which time the rate was less than 7.5% . The net deficiency of \$1,522,000 for the entire period compares with the red figure in my Exhibit 4 (complainant's) of \$6,004,091. To make the new table compare to the other, it is necessary to take out the depreciation of \$1,781,763, and in so doing there would be a surplus instead of a net deficiency, which would result in a black figure instead of my red figure.

[fol. 120] EARL L. CARTER, a witness called on behalf of the defendant (commission), being first duly sworn, testified as follows:

Examination-in-chief.

Questions by Edward M. White, Esq.:

I am now Chief Engineer of the Public Service Commission. Have been in the department since 1917. Am a graduate of Purdue University, with B. S. E. E. and E. E. degrees. I have had practical experience in the engineering field, three years in Chicago. Have been with the Public Service Commission since 1917 and Chief Engineer of that department since 1922.

I am familiar with the Indianapolis Water Company property. I have a number of engineers in my department and, with them, have made an appraisal of the water company's property. The inventory upon which the property was appraised was dated as of April 1, 1922, and was made by different members of our engineering staff, and was substantially the same inventory used by the company's engineers here is correct.

Exhibit 33 is an appraisal of the Indianapolis Water Company property as of April 1, 1922, the quantity of inventory being detailed and priced with unit prices. The inventory is the same as was used in the testimony given by the engineers of the water company, with a few exceptions. The prices applied to the various units of inventory here is the ten year average prices from 1911 to [fol. 121] 1920. I have made a number of computations at different times, based on various price levels. The 1911 to 1920 appraisal shows the total cost of reproduction \$14,829,945, and a depreciated figure or present value of \$13,979,744.

Defendant's Exhibit 34 is a recapitulation of the summary shown in the appraisal, Exhibit 33. The second page of Exhibit 34 (defendant's) shows a summary of the property segregated in two parts, operative and non-operative. On pages 4 and 5 of Exhibit 34 there is shown the operative property divided into groups under the head of land, transmission, distribution, buildings and plant equipment. Page 7 of defendant's Exhibit 34 shows a recapitulation of operative and non-operative property, with a different price applied to cast iron pipe than was applied to it in page 4 of this exhibit.

The price levels are those of 1911 to 1920. The present value as shown in this appraisal is \$13,658,507. The appraisal was made by different members of the engineering staff. Pages 9 and 10 of defendant's Exhibit 34 are detailed in support of figures on page 8.

Defendant's Exhibit 35 shows net capital additions to the Indianapolis Water Company from April 1, 1922 to December 31, 1923. The additions were taken from the books of the company. The net additions from April, 1922 to December, 1923 on a cost of reproduction value are \$1,005,495. The present value is \$1,010,105. The difference is accounted for by the fact that the property taken out is taken out of the present value at a different figure than that [fol. 122] from which it was taken out of the reproduction value. The non-operative property, so far as it related to buildings, is deducted at a reproduction cost value of \$5,261 and at a present value of \$4,286. These deductions were made because they represented property which had been taken out of the capital account. The figures are not reflected in the million plus shown above in the exhibit.

Defendant's Exhibit 36 is an appraisal of all lands and buildings.

Defendant's Exhibit 37 shows the appraised value of non-operative land with the name of the tract, acreage, gross appraisal and amount, if any, which was allowed for well sites and the net amount listed as non-operative property. This is not a list of all non-operative property, but only of all non-operative land. The amount of non-operative land, exclusive of overhead (structural) in my opinion was \$472,996. The last is scattered through different parts of the utility, most of it around Riverside and some around the canal and some near Noblesville. The Riverside tract has 30 or 40 wells on it.

The first eight items on defendant's Exhibit 37 are in the above tract. I have seen most of the wells and have seen the different tracts. The wells are scattered throughout the different tracts and in different parts of the tracts. Water is being pumped from them. The wells take up very little land.

My appraisal 33 (defendant's), dated April 21, 1922, make no allowance for going value nor for working capital, except \$100,000 [fol. 123] for material and supplies. 15% overhead is allowed on all the property, including the real estate, excepting material and supplies.

Defendant's Exhibit 38 shows the appraisement of land and office buildings. The office of the company is located on the northeast quadrant of the Circle. I made a set-up of the rental value and capitalization of the rental value of the office buildings. That is shown in defendant's Exhibit 39. The exhibit shows what rental the water company would probably have to pay if they rented the same amount of space that they now use on the Circle. The average rents for property in such location are capitalized to see what amount of the appraised value should be in fairness considered as a rate basis. The cost per year as shown in the last two lines of Exhibit 39 is \$34,400 and is capitalized at 14% in one case and 15% in another, and shows the amount which should be treated

as part of the rate basis. The appraised value of the property is much in excess of that amount.

Defendant's Exhibit 40 is a set-up of figures showing what the rental per year of the water company would be if it were situated at a point similar to the location of the Citizens Gas Company, capitalizing such yearly rentals at 14% and 15%. The capitalization at 14% would amount to \$84,333 and at 15% \$90,357.

The Court: My judgment is that testimony of this kind is rather far afield.

[fol. 124] Mr. Groninger: Except this, your Honor. In a mortgage which they executed some time ago, the company itself recognized the fact that the site there was so valuable that the commission would not include it in a rate base at that value.

The Court: Let us consider for a moment. I can see the pertinency of Mr. Groninger's position, because this comes in a recital in the mortgage of a probably excessive site over here on the Circle for office purposes, but that has no ground. The company holds it, and while it holds it, I doubt very much whether it is competent for the commission or court to say that because it has become so very valuable we won't give credit for the value.

Mr. White: The consumers would have to pay on an enormous value when an office site might be secured at less.

The Court: That brings us to the field of whether the value that is in fact there is value that is being committed to public use.

Mr. White: Whether it is used and useful.

The Court: The fact remains where a utility acquires property as this was acquired, and through no fault of its own it gets an increment, whether a court can say when it is first called to its attention, that the company is holding property colorable only. I think [fol. 125] in connection with an office site and the well lands that the case must advance to a position where it can be said that the holding of that property is colorable only before such property can be excluded. The utility is confronted with a necessity of exercising as between itself, its security holders and the public a good judgment. Unless property has become so valuable that it ought not to be held for the purpose to which it is committed any longer, and unless the holding can be said to be merely colorable, I think it rather a serious thing to reconstruct an office site.

Questions resumed by Mr. White:

Defendant's Exhibit 41 shows the property classed as canal property, starting with Broad Ripple and going to Washington Street Station, excluding the Washington Street Station. The figures show the inventory of the property priced on different price levels. On the second page of this exhibit is shown the reproduction and present value. Attached to said Exhibit 41 is a map showing the general location of the canal, beginning with Broad Ripple north and running to Washington Street Station, where the canal re-enters the river, and showing in a general way the portion of the city that the canal goes through.

Defendant's Exhibit 42 is an appraisal of the canal property south of the filtering plant, being inventoried on April 1, 1922 and priced on four different price levels. This exhibit includes the property at the Washington Street pumping station. [fol. 126] Defendant's Exhibit 43 is some general information regarding the canal, consisting of a newspaper statement and the abstract of title of the water company.

Cross-examination.

Questions by Taylor E. Groninger, Esq.:

The property inventoried as of April 1, 1922, on a ten-year average price from 1911 to 1920, together with additions from April 1, 1922 to 1924, shows a total present value of \$14,989,849. The \$13,970,000 valuation for the property as of April 1, 1922, includes 15% structural overhead (defendant's Exhibit 33), and the appraisal of the property acquired since April 1, 1922, which amounts to \$1,110,105 and which is shown on defendant's Exhibit 35, does not include the 15% structural overhead.

Defendant's Exhibit 33 includes in the land total an item of \$150,000 for accumulation of right of way of canal. This is on the theory that the canal land was of the value of adjacent land and should be appraised on the basis of sales of adjacent land and quotations thereon as of April 1, 1922, and that in order to put the land in a continuous strip there would be additional cost, and we have made a \$150,000 allowance to cover that cost. This is sometimes done by engineers, although I think that the courts have ruled that no allowance should be made. It is just an engineer's estimate.

[fol. 127] Defendant's Exhibit 33 includes in the land total also an item of \$100,000 for damages to land above the Broad Ripple dam. There is considerable acreage damaged by the dam there. This land is not owned by the water company, and in making this appraisal we made an arbitrary allowance, assuming that if the dam were reproduced and there would be damages to the land, the water company would have to pay some damages.

All the land actually owned by the company was priced at present day prices.

The land damage at Fall Creek is put at \$30,000. The company does not own the land, and if a dam were to be built the land probably would be damaged, so the allowance of \$30,000 is an arbitrary one for such damage.

These items total about \$280,000. To that is added the 15% structural overhead. Such overhead is applied to all items except materials and supplies. Some engineers treat land damages in the nature of structural overheads themselves and acquisition fees, but I have not done so.

I made no examination of the books of the company to determine the actual structural overheads.

If a structural overhead is paid out of the operating expenses of

the company, that should be eliminated, having reference to the 15% structural overhead on all physical property, that is, if the evidence shows that the company has not had overheads, then there should be some adjustment made, on a reproduction method, of the 15%. There would be some reason for deducting half of the [fol. 128] structural overhead, if the evidence showed that half of such overheads had been charged to operating expense. It would depend on what basis you were using to arrive at your value whether you would accept 7% structural overhead, if that were the actual overhead shown on the books of the company. If you are using a strictly reproduction figure, the actual cost might have no weight. A structural overhead in reproduction cost is based on the experience of the company. The experience of the Indianapolis Water Company as to the percentage to be required for structural overheads would not be a final criterion, because in a reproduction appraisal the prices are not necessarily the cost to the company, and if you are not using cost, you would not follow cost in one case and not in the other.

In my appraisal I have used a ten-year average price, from 1911 to 1920. That is the price the company would have to pay probably if they were reproducing at the prices prevailing during that period. Some of the prices we used are quotation prices. They are available. Actual costs are not. We temper quotation prices with the experience of the company to determine what would be a fair average price for a ten-year period. I could not get unit costs of labor and material from the company's actual experience from 1911 to 1920. On cast iron pipe I discounted the quotation prices because I found the company had apparently bought cast iron pipe for considerably less than quotation prices. In that respect I tried to reflect the experience of the company. In defendant's Exhibit 34, appraisal No. 2, we did not use any deduction on the ten-year average quotation prices of cast iron pipe, and that is the only difference between [fol. 129] my appraisal No. 1 (defendant's Exhibit 34) and appraisal No. 2. I did not have all the records of the company available on the cost of cast iron pipe. I had some records available, but not enough for the entire cost.

As to labor, I used the ten-year average gang labor price for installation and distribution. This price was shown by the experience of the company. We got the figures from the record.

In getting the price of pumps, we can't get a ten-year average quotation. You have to take such price as you can and work from that to an estimated average price. We got no quotation on the large Davis pump. It was the only pump of its kind, especially constructed. The Snow pump is more or less standard. You can't get a ten-year average price on large units of that kind. All you can do is to get a price of a similar pump at some time and, by means of index figures, estimate the ten-year average price. The cost of building such a pump can not be estimated.

I do not show accrued depreciation as such an item, but the difference between reproduction cost and the total present value—if you

care to call it accrued depreciation—would be about \$850,000 on the ten-year average prices. That amount represents the difference between reproduction cost new and the depreciated reproduction cost. I would think you can call that difference accrued depreciation.

The percent condition of property is determined by a combination of life tables and inspection. In so far as possible the various units of [fol. 130] inventory were inspected and a percent condition applied to each group of property or each individual item. I used the combination 4% sinking fund, life table, and inspection, method. The life table method is not straight-line depreciation. It is really a part of the 4% compound interest method. We had not used a straight-line method of depreciation in our appraisal. In the 4% sinking fund method we first reproduce the property, then arrive at a percent condition of the property as it is, which gets you from your reproduction new to your present value figure. You attempt to find out the age of the property, the probable life. You inspect the property, knowing the life and age and the physical condition of the property, and arrive at a judgment figure of the percent condition of that particular piece of property. In this case I find the property on the whole to be in 94% condition. The land, of course, is in at 100%. Materials and supplies are in at 100%. Considering the property as a whole, the relation between the present value and the total cost of reproduction figures, as shown in defendant's Exhibit 33, would bring me to the conclusion that only 6% of the property life is exhausted. This is partially exhausted life and partially obsolescence. I don't know how much is attributed to either exhausted life or obsolescence separately. The appraisal includes thousands of items. This is not the method by which the commission determines annual depreciation nor the basis on which the water company made a request to the commission for annual depreciation. It is my impression that the commission uses the sinking fund method, assuming the average age of the property as so much and calculating the necessity for a fund to take care of the depreciable property annually. I did not write the commission's order and did not know what basis the commission used when it allowed 1¼% annual depreciation. I don't think the commission uses the straight-line method, if I understand. If you use the sinking fund method and set aside 1.22% each year, that would mean that the average life of the property would be 37 years, that is, assuming the money be set aside at 4%, compounded annually. That does not allow for annual retirements.

It is pretty hard to say what the average life of this property is. I have not considered the property as a whole, but each individual item, in determining its age and its life. If you take a straight-line table for a particular piece of property and it has a life of 80 years and a service age of 20 years, then 20/80 of its life is gone. If you assume one-fourth of the life of the property exhausted on a straight-line method, you should have a 75% condition, or a depreciation of 25%. That is the regular way of working the straight-line method. Now, taking a piece of property whose life is 100 years

and whose age or service is 20 years on a 4% sinking fund method, you would arrive at a 98% condition. If you used a 4% sinking fund method for annual allowance of depreciation, you would get a less annual depreciation than if you used a straight-line method. [fol. 132] My present value figure on this property of \$13,979,744 on the reproduction theory does not give any consideration to any depreciation reserve money that may have been invested in the property. I gave no consideration to the source of the money nor the fund from which it came. I dealt merely with the reproduction of the property. The canal land was priced as of the date of the inventory.

The land was estimated on our own appraisal by examination of sales and quotations as to tracts adjacent to the canal, or similar tracts in various sections along the canal. There is only a small difference between my valuation and the company's on the land item. The total land valuation is \$2,949,438. The canal land is separately appraised in defendant's Exhibit 41. The land value of the canal is fixed at \$1,690,070. This includes 15% overhead. The canal appraisal was based on the assumption that there was no canal there and you had to acquire the land, and the land of the canal is appraised without any question as to what they would have to pay for digging it. There is a separate item for the labor of making the canal. That is "D," under Plant Equipment, in my appraisal. The amount is \$1,049,447.

In reproducing or digging the canal we had to assume the conditions under which the work would be done, and we assumed a similar set of conditions to those existing at the time the canal was originally constructed. In the construction you have to assume the disposition of earth taken out of the canal bed. There are a great many assumptions you have to make.

[fol. 133] The intake of the canal is right at the river. At Twenty-first Street the water leaves the canal to go to the filter bed. This is about six miles from Broad Ripple. The water comes on down from the filter bed intake to the Washington Street Station where there is a hydro-pumping plant in which they pump water by means of the raw canal water. There are two or three turbines there—three or four, I think. These pump the purified water from the reservoirs at Riverside Station. I don't know what percent of the water taken into the canal goes into the filter beds.

I gave no consideration to going value in my appraisal, and to working cash capital I gave consideration only in so far as materials and supplies may be considered a part of the working cash capital. I have that in the appraisal at \$102,997, which is the present value figure for material and supplies.

Defendant's Exhibit 37 includes the Mooney Tract of which Mr. Metcalf spoke yesterday as non-useful. The Schurmann River Tract is a long narrow strip containing about 17 acres along White River. There are no wells there, I think. We appraised it at \$8,500. I don't know what use is being made of it by the water company. There are some gravel companies there. There is also a lot, No. 76

Floral Park, near the filter plant carried at \$250. There is the Lohrman tract of 2.86 acres west of Harding Street. I don't know what use is being made of it. I don't know what use is being made of the Dawson Tract. There are no wells there. The Mooney Tract is the farm in the bottoms. The Indianapolis Brewing Company Tract of 17 acres is along the canal. There are no wells on that. [fol. 134] I don't know what it is being used for. The office site building is in one of the high rent districts of Indianapolis.

Cross-examination.

Questions by William A. McInerney, Esq.:

Defendant's Exhibit 33 made in 1922 is the same one used in the testimony before the Public Service Commission in Cause No. 6,613. I made a number of appraisals at that time, and two on the basis of prices of 1911 to 1920. The difference in the two—the 1911 to 1920 appraisals—was that in one the quotation price of cast iron pipe was used and in the other approximately 10% was taken off the quotation prices. The figure I have been examined on was the lowest figure of any appraisals presented to the commission. The difference in the two appraisals resulting from the different methods of appraising cast iron pipe was about \$375,000. I think the commission used a ten-year average price in its Order No. 6613, but the ten-year figure they used was not from 1911 to 1920, but from 1912 to 1921. The total of my appraisal (defendant's Exhibit 33), changed from 1911 to 1920 basis to 1912 to 1921 basis, was about \$14,689,078. That is the depreciated figure of the physical value on a ten-year average ending with 1921. I made a compilation on a ten-year average for the last ten years, including 1923. Using index figures for the property and converting from the old base to a ten-year average price for the ten-year period ending 1923 for the entire property, I get a present [fol. 135] value of \$16,006,370. That does not include the allowance for property added since April 1, 1922. These net additions are about \$1,010,000, but they cannot be added to the \$16,006,370 without some slight adjustment, because the property taken out of the plant from April 1, 1922 to December 31, 1923, which affects the total additions for that period, were taken out at the unit price carried in a detailed inventory which is priced on 1911 to 1920 ten-year average price. \$10,000, \$15,000 or \$20,000 covers those items probably. Assuming that \$1,000,000 had been added to the property since 1922, there would be a \$17,000,000 plus valuation for the total property.

In defendant's Exhibit 42 there are two adjusted years, 1917 and 1920. These were years of peak periods, and instead of accepting the peak price for 1917 the average between 1916 and 1918 was accepted, and instead of using the 1920 peak prices, the price average of the years 1919 to 1921 were used. My total physical value as of January 1, 1924 was \$18,487,817. That is on the inventory of 1922. Adding \$1,000,000 to this for betterments since 1922, we have a spot price on January 1, 1924 of \$19,500,000.

It is possible for an engineer to develop the reproduction price with no knowledge of the company's books.

The Court: The witness' testimony as to whether his structural overhead of 15% would be modified if he knew that the company's books showed only a 7% overhead, was perfectly clear. He made it perfectly clear that if it were a strict reproduction of prices, they have to have a strictly theoretical development cost, and that he would [fol. 136] adhere to his 15%.

The Witness (resuming): 15% structural overhead is figured on land, structures, plant—everything except materials and supplies. It is determined by a composite figure reached by using various percentages in such manner as is done by a great many appraisal firms and engineers. We have applied it as a flat sum and have not attempted to segregate it. If you eliminate the land, it might be possible that you would require a larger figure than 15%.

In Cause No. 6613 I presented a 1918 to 1922 price average, assuming that the first ten months of 1922 would reflect the entire basis for the year 1922. The present value found by means of index figures gave a present value of \$18,335,974 for the entire physical property. That was as of the inventory of April 1, 1922.

LEONARD METCALF, a witness for complainant, being recalled for cross-examination, testified further:

I might make a brief statement in regard to wells. In giving the approximate area of the land upon which the wells are located, I included one-third of the lot on which the pumping station and reservoirs were located, on the theory that there were wells upon that lot, although the entire lot might be ascribed to storage basins. About one-third of the entire area has been allowed by the engineer of the Public Service Commission in his value; that is, to be more accurate, [fol. 137] 36% has been so allowed. Since 1917 I find wells to the extent of 30% increase in number have been added at the two stations.

The Court (question to Mr. Carter): Did you have in mind, when you spoke of the inclusion and exclusion of areas for the wells, a suggestion of a method giving to each well a certain area, we will say, the size of an ordinary lot? I understood Mr. Carter to say that was his method.

Mr. Carter: Yes, sir. That is the manner in which we gave to the well proper what Mr. Metcalf calls approximately 30% of the entire property where there are wells. What we actually did was simply to deduct from the total tract the appraised value of the lot and put the lot site in the operative land and the remainder in the non-operative land.

The Witness (resuming): The total area Mr. Carter gets is 36%, roughly.

Cross-examination.

Questions by Clair McTurnan, Esq.:

I have served the company in various capacities since 1907 and am familiar with their finances, more or less. I have appeared in a number of rate cases on behalf of the company, the first in 1916 before the Public Service Commission. Since 1917 I have not appeared in all the hearings before the Public Service Commission. I think after 1916 I was not before the commission again until last summer, nor did I do any work with respect to rate hearings between 1917 and 1923. I was familiar with their financial condition, how- [fol. 138] ever, during that time and gave consideration to their financial condition in preparing my suggested outline of development of their plant. The program of development was not prepared with a view to the income of the plant, but as an aid to my judgment, looking forward to the situation which the company faces. I submitted the program with other facts contained in my report, for them to determine their future policy. I submitted the improvements and suggested changes, having in mind the financial condition of the company, and the conditions and changes were such as I would recommend to a company in finance similar to the Indianapolis Water Company.

I knew of the valuation fixed by the commission. I did not know of the valuations placed by other engineers on the property—Mr. Hagenah and the others. Every rate order from 1922 or 1923 has probably come to my attention, and I think I have been familiar with the rate base at all times when I was making recommendations as consulting engineer.

I made no suggestions to the Indianapolis Water Company which I felt were impracticable. I thought that the company was at the parting of the ways and, under the then existing rates, it would not be possible to develop the company most advantageously to the community and to the company.

I did not regard the earnings of the company as sufficient to support projected betterments. I recommended to the company what [fol. 139] I thought was most desirable from the city's point of view and that that standard could not be built up under existing rates. I know that in one sense, from 1917 on down, the rates established by the Public Service Commission for the water company were accepted without raising any legal question as to the propriety of the orders, but I know that they did not believe them adequate and fair. I advised them at the time that they were not adequate, I think. It has been too long for me to answer as to whether I advised them that the rates were confiscatory. I did advise them that \$9,500,000 was not an adequate valuation when that valuation was placed on the property, and I mean by that that the valuation was inadequate in that, coupled with the desire for betterments necessary from the point of view of the public, the money received from the rate of return would not be a reasonable return on the investment. I have submitted at the rate hearings in which I

have appeared the proposed future expenditures, and the company has always been advised by me as to the necessity for future expenditures. I know that several rate rearings have been held since 1917, at least several in the period of five or six years. During that time there was a period of two or three years in which I don't think I came in contact with the company. I was asked in 1920 to make this study, and my own conclusions were not reached until the end of a period of perhaps 18 months to 2 years. I don't know whether the company had another engineer advising them during that period or not.

Along about 1918 or 1919 I had not made a study of their exact condition or development requirements and probably was not as familiar with them as I was in 1916. In 1916 I knew there was [fol. 140] a need for extensions and betterments, but no study was made such as the recent study. I knew that the mileage of pipe would have to be extended and that the most important thing is the early part of the plan.

I had never heard of any appeal by the company from any order of the commission. Within my knowledge there has been no appeal, although I have made no inquiry.

I have not prepared my exhibits for the general purpose of showing that the present rates will be confiscatory. The purpose of some of the exhibits is to show what lies before the company in the form of construction; others show financial condition; other exhibits were designed to show that the rate of return was what it was—in other words, to develop the rate of return so one might form judgment as to the adequacy of the rates to compensate and command new capital. I understand that this is a confiscation case and that future problems of construction could have no bearing as evidence, except for the fact that it might show inadequacy of return. The important bearing of future construction is the financial bearing. My exhibit is submitted with the object of showing what I believe to be the facts. Certain of my exhibits were prepared with this case in view and certain exhibits were not. Some were prepared as late as Monday; I think some on Tuesday of this week.

Complainant's Exhibit 20 prepared by me does not outline additions and betterments suggested by me, but shows the additions and betterments authorized by the management of the company [fol. 141] under the requirements of the board of the city which has to do with extensions and the studies of the company's officers. These additions and betterments are partly a result of my recommendations; partly not.

There are betterments in the list of additions and betterments (complainant's Exhibit 20), the incidental effect of which would be to reduce expense of operation. The introduction of meters will tend to reduce the consumption; the steam flow meter may reduce expenses somewhat; the flue gas apparatus will involve some reduction; the hoisting derrick may reduce operating expenses; the Pito tube apparatus may result in better practice. The automotive equipment may effect some saving. The equipment at Michigan Booster

Station may do so, but it is too involved a question for me to determine offhand.

I have a total estimated expenditure of 1924 of \$618,000. In the sense of being actually in the ground, a small portion of these anticipated expenditures has been made during these three months of 1924, about one-sixth; in the sense that the company has made commitments by contract for the rest of the work, a very substantial part has been incurred and actual expenditure has been made. To-day, however, only about one-sixth has been made. In arriving at the net revenue for the first two months of 1924 I took into consideration expenditures made, that is, the additional cost of operating incurred because of additions and betterments, if there were any, were reflected in the operating expenses for the first two months [fol. 142] of 1924. I do not know whether the economies of operation, which would be incident to the installation of additions and betterments, would be slower in their reflection in the operating expenses than the immediately increased expense of operation by reason of them would be. I doubt it. I don't know. The additions and betterments for 1924 are \$618,910.

I testified in 1923 in Cause No. 7080, that the expenditures for the year 1923 would be \$900,000, and the amount the company actually installed, as I remember, in 1923, was \$876,000. [fol. 143] In complainant's Exhibit 26 I show a gross operating revenue, exclusive of non-operating revenue, for the year of 1923 of \$1,840,000. In 1922 I showed operating revenue of \$1,696,000. In other words, the operating revenue of 1923 exceeded that of 1922 by approximately \$144,000. During the year 1923 the additions and betterments were about \$876,000, and only about one-half of these additions and betterments produced any revenue in 1923. In one sense, that would mean that the company was receiving in 1923 a return on about half, or \$438,000, of the additions and betterments for that year. In another sense this would not be true, since an extension of the large main through the city, which involved nearly one-half of the betterments, did not add takers on the main; however, it enabled the company to supply additional water to outlying districts and serve a larger number of customers when they got such customers. To that extent my answer should be modified.

Roughly speaking, in 1923 half the additions and betterments were non-productive, though I have given no consideration to that matter except upon the witness stand now as I meet the question. In spite of the fact that the additions and betterments of 1923 were 50% non-productive, there was in 1923 an increase in gross revenues of more than \$144,000 as compared with the year 1922, and I assume that would pay a considerable rate of interest on additions and betterments. I should not expect it to pay 20%. I cannot [fol. 144] figure in an off-hand manner. The net revenue for income, for return, in 1923, is \$902,000. In 1922 the net revenues were approximately \$846,000, and the net revenues of 1923 exceeded those of 1922 by \$56,000 or \$57,000, which would make an increased return of approximately 7% on \$800,000. It is a fair assumption that the increase in the growth of business from

new customers must have supplied in part the increased returns to take care of additions and betterments for 1923.

Comparing the gross and net returns of the year 1922 with the gross and net returns of 1921, as shown in complainant's Exhibit 26 prepared by me, I find the operating revenues for 1922 \$1,696,564 and for 1921 they were approximately \$146,000 less; that is, 1922 showed an increase of approximately \$146,000 in operating revenues as compared with the year 1921. The additions and betterments in 1922 were \$310,000, and you have an increase in gross revenue of \$146,000 for 1922 with which to pay a return on additions and betterments of \$310,000. However, it is to be considered in this connection that a rate increase went into effect in 1921 which was only effective during particular months of 1921, but was effective all during 1922, the increase in the rate being responsible for part of the increase in revenue. The increase in gross revenue is 47% of the investment in new construction for the year 1922. I do not mean to say that the increase in income was the result of the betterments on the property or had any relation to it. 47% is merely an arbitrary ratio between the increase in the income and the expenses for additions and betterments.

[fol. 145] Considering the net revenue for 1922 as compared with the net revenue for 1921, there is an increase in 1922 of about \$77,000, and that \$77,000 is 20% of the total additions and betterments for that year. I don't admit that the increase in revenue is attributable to additions and betterments. The fact is simply that the increase in revenue, divided by additions and betterments, gives the percentage indicated. One of the figures represents increased revenue and the other additional expenses for the year, which goes into capital, and the increased expenses for additions and betterments being in capital, it is one of the incidents of it that is considered for the purpose of showing that an increase in return is necessary to take care of a fair return on it. That is one of its important phases. The increased return from 1922, if appropriated to additions and betterments, would pay 20%, but it is only a ratio and not attributable to additions and betterments as a source.

Returning to 1923, the additions and betterments of \$876,000 were not all in during the entire year and do not represent the total investment at the outset of the year, and consequently they should not be capitalized from the outset of the year. So in considering what would be a fair return on additions and betterments in 1923 and in view of the fact that \$876,000 additions and betterments was not invested at the outset of the year, and treating the \$876,000 [fol. 146] as having been invested only about one-third of the year, a fair rate of return upon such additions and betterments for the year 1923 alone would be about \$20,000. Since the increase of net revenues in 1923 as compared with 1922 is \$57,000, that amount would be enough to pay two and a half times the fair return required for that year on additions and betterments. Yet I do not think it can be said that there is no confiscation resulting to the company because of additions and betterments in the years 1922 and 1923. I would not say that the experience in

1922 and 1923 in the increase of net revenue would be repeated in 1924. My exhibit shows my opinion on that. I do not think that the business in 1924 will give an increased net return to an amount equal to 20% on additions and betterments; at least, I do not think it follows that, because such things occurred in 1922 and 1923, they will do so in 1924. If conditions are the same they will produce the same result. You have a multiplicity of conditions entering into the problem, and the thing I want to bring out and which I think is implied in the question put to me, which I think is not true, is that the increment is directly associated with the extension. The relationship is not so simple. Without consideration to the source of income or the theory of cause and effect, the fact remains that in 1921, 1922 and 1923 the increase of business from some source or another was sufficient in amount to make very much more [fol. 147] than a reasonable return on additions and betterments, if you apply the entire increment to betterments—but it does not so apply; it applies to the entire property.

In complainant's Exhibit 22 prepared by me, and in the fourth from the last column at the top of that page, I have a total revenue of \$348,944 for the months of January and February, 1924. Projecting and revising that I have a 1924 revised operating revenue of \$2,127,000. I recognize that the annual income will be somewhat in excess of six times the operating revenue for the first two months of 1924. I assume a larger water consumption in the summer than in January and February.

In complainant's Exhibit 23 prepared by me, I projected expenses for the first three months of 1924 amounting to \$276,245 and get for the year \$1,104,981. The latter amount is supposed to be four times the three months amount. That includes total operation, maintenance, taxes and depreciation. The adjustments which I have made in the last column on that page brings the total to \$1,198,000. Among these adjustments is included \$25,000 for costs of rate proceedings. Then there is the item of increased taxes over 1923.

Complainant's Exhibit 24 shows the analysis of the tax which I have used in making the adjustment in complainant's Exhibit 23. The actual tax for 1923 was nearly \$339,000. The actual tax for 1924 would be paid in 1925, but it has to come out of the net earnings of that year (1924). I think the company actually paid taxes on \$12,085,290 in 1923. I assume that in 1924 the company submitted a valuation for assessment to the State Tax Board, but I made no inquiry about what it was. I was merely trying to determine in my tax calculations what I thought the tax board would levy. I made no inquiry as to what representation the company was making to the tax board. I made an inquiry of the tax board as to how it levied its taxes, and in that sense my calculations are not matters of prophecy. I understood that the company had submitted a valuation to the tax board of \$12,930,000, that the city had intervened, asserting that the valuation was too high, and I understood that the tax board, on its own initiative, was reserving the acceptance of the company's submitted valuation until this

court had rendered its decision so that the city would not lose anything by a higher valuation being fixed by the State Tax Board than might be found by the court. I do not know whether the tax board has accepted the valuations of the Public Service Commission in the past as a basis for tax.

Order No. 6613 fixed the valuation at about \$16,000,000. I know the tax board did not accept that, but assessed the property at \$12,900,000. I don't know what the State Tax Board has done from time to time. I don't know whether they take the valuation of the previous year and add to it the additions and betterments [fol. 149] for the current year in order to ascertain the assessment for the current year. I assume that they do add additions and betterments to the previous assessed valuation. I assume, however, that there are re-assessments from time to time.

The tax for the year 1924, which I have calculated to be \$440,000 is calculated on a tax base of \$15,734,000. There was a reason for not following the plan of taking the previous valuation for 1923 and adding the additions and betterments for 1924 in order to ascertain the tax base.

The rates of this company have been changed by the commission and the valuations have been changed at various times from 1917 to 1923. I can't say what the State Tax Board's practice has been about valuation of assessment from year to year. I do not assume that they would accept, for the purpose of assessment, a valuation fixed by the commission when that valuation was in the course of litigation. When I assume \$15,260,000 for my tax base, I do assume a valuation which is now in dispute before this court and a valuation about which the city is raising the question before the State Court in the event the rate is not determined to be confiscatory in this court. Yet in using the \$15,260,000 as a tax base I make no assumption in respect to what the courts will hold. I think that if the tax board were proceeding today to levy tax it would use the \$15,260,000 basis. I know it is not proceeding to fix the tax today and is in fact awaiting the result of litigation. I should not have used my \$15,260,410 tax base if the chairman of the State [fol. 150] Tax Board had informed me that it had been and would be their practice to take the assessed valuation of the year previous and add to it additions and betterments for the current year, in order to obtain the tax base for the current year. I have had access to the actual facts as to what the State Tax Board has done, but I did not figure how they arrive at their assessment. I thought it was more significant to go direct to the board. I think my inquiry of the chairman of the board covered the method utilized, not specifically, for the last six years, but the policy of the board. I am not willing to say that the State Tax Board has accepted at all times the valuation placed on the property by the commission in the past, and I know that the tax board fixed the valuation in 1923 at some \$3,000,000 less than the valuation of Order No. 6613 of the commission.

I haven't anything to do with the tax returns of the company and I don't know whether the company filed a sworn valuation of

\$10,085,000 after Order No. 6613 was entered. I haven't seen anything of the sworn tax returns so far as I know and the company has not consulted me in fixing their valuation for taxation.

The \$440,000 which I have fixed as the probable tax for 1924 is in excess of the actual prorated tax for the year 1924 by about \$60,000, and it is \$101,000 more than it would have been on the valuation [fol. 151] of 1923, so that my adjustment involves an increase of \$61,000 in respect to taxes. I think the increase in rates and valuation will be reflected in the tax. The effect of my calculations is to decrease the net income for return for the year 1924 by \$61,000. This is shown on complainant's Exhibit 23. As to the adjustment, \$25,000 shown on that exhibit is an increase in the operating expenses for the year 1924 over 1923. At least, it has the effect of increasing the operating expense. The adjustment amortizes a debt; that is, the \$25,000 represents the equivalent of the amortization of the costs in these three suits in a period of five years. \$174,000 was my estimate of the cost of these three suits. There is \$62,253.98 of costs and expense of litigation in connection with Order 6613. Part of that amount was used in obtaining the valuation for the purpose primarily of issuing securities. In part, it was a valuation of the property for whatever uses it might be put to. The work was a valuation of the property. It seems to me that the expense of obtaining the inventory, included in the \$62,253, an item for the cost of litigation under Order No. 6613, may be considered as simply an incident to the determination of securing values and has saved a subsequent expense which would have been incurred in connection with the rate hearing. The substantial part of the \$62,000 is due to the inventory. The company does not make an inventory of this sort every year. It was a special inventory. They have regular [fol. 152] inventories on different occasions for the purpose of the company's business. In that sense, this was a regular inventory. This inventory might not have been necessary until such time as there was action for increase in the rate of return. It is true that the inventory has to do with the rate of return, but that is only one element. The rest of the \$62,000, exclusive of the amount for inventory, was for attorneys' fees and other expenses in connection with order No. 6613.

As to Order No. 7080 referred to in complainant's Exhibit 23, \$61,817 is charged to expenses. That includes inventory, lawyers' fees and costs. The present procedure items in that exhibit relates to this case here. \$50,000 is allowed for this present procedure. My calculations are that the present procedure will be only \$11,817 less than the expense of the proceeding before the commission about three or four months ago. We are using the same inventory in this case that we used before the commission, with the additional inventories since that time, and those are the only inventories so far as I know. I am not prepared to say that the only amount which would be attributable to the cost of the inventory would be the approximately \$11,800 difference between the cost of this procedure and the procedure before the commission. My impression is that

the original inventory cost more than that. I have allowed \$61,817 (and so far as I know, it is the actual amount) for the expenses of [fol. 153] the last hearing, including the inventory, expert fees, counsel fees and hearing. At the last hearing the complainant had as many counsel as it has in this case. The engineers in the two hearings are the same, with the exception that Mr. Elmes did not appear before the Commission and does appear here. Assuming the counsel fees and expert fees in the previous hearing and this hearing are approximately the same, and incidental matters are approximately the same, it may be that the inventory would account for the difference between the expenses for the two proceedings; I don't know.

If I were to eliminate counsel fees and the cost of litigation in the rate cases, that would eliminate the \$25,000 amount amortized in my exhibit. Eliminating the \$61,000, which I have included by way of increase in taxes, and \$25,000 which is substantially for lawyers' fees, the annual net revenue would be increased approximately \$86,000 more.

Among the other items amortized in my Exhibit 23 is a \$17,000 tax. If that is improperly amortized and is eliminated, I will have an elimination from my operating expenses of \$86,000, plus \$17,000, or \$103,000 (which has actually been incurred) which will in effect theoretically increase the net earnings, which I have shown in line 9 of complainant's Exhibit 23, from \$958,000 to \$1,061,000, and if I had used the figure \$1,061,000 for net earnings in making my calculations on the left-hand page of complainant's Exhibit 26, I would have had a somewhat different result, about 10% more.

[fol. 154] In complainant's Exhibit 27, at the bottom, I have an item described as Public Service Commission rate base. In the year 1917, I fixed that rate base as \$9,500,000. I fixed it in that manner because that was the amount fixed in the commission's order on that date. My next item in that exhibit is for 1918 and is \$10,636,000. I don't know what the commission's rate base was for that year. If I had known I would have put it in. I was not aware that the commission had given its rate base year by year. I did not make any inquiry as to whether there had been a change in the rate base in 1918. I do not know that the commission in finding its rate base for 1918 took the rate base of Order 1400 for the year 1916 and added to that additions and betterments for 1918. If my item of \$10,636,000 does not reflect the commission's actual rate base for the year 1918, it is erroneous in the sense that it is not the rate base used by the Commission.

In 1919 I have a rate base, shown in complainant's Exhibit 27, of \$11,738,000. I did not intend for that to represent the rate base of the Public Service Commission. I have stated in the exhibit exactly what has been done. The rate base shown there was not fixed by the commission. I did not so state.

In complainant's Exhibit 29 it appears how the rate bases were determined. I explained that yesterday. The rate bases used in Exhibit 27 are not the commission's findings nor my opinion of the [fol. 155] fair value of the property. It is both and neither. In

1921 the rate base as shown in complainant's Exhibit 27 was \$14,545,000. I don't know what the commission fixed as the rate base for that year. I did not know they fixed it. I didn't know that Order 5798 of the commission fixed the value of this property at \$10,814,000. Had I known it I might have shown that. What the column on my Exhibit 27 does show is, not the rate base as determined by the commission, but a base that I have calculated, controlled by two valuations, the only two that I know of made by the commission—the valuation of \$9,500,000 in 1916 and the valuation of 1923 brought forward from May 31, 1923 to December 31, by me. The process is one of mathematical calculations in using those two figures. A large factor in the accuracy of the calculation is the propriety of the \$15,260,000 as a rate base and the propriety of the rate base of Order 1400. The other factor involved in the calculations there is the mathematical calculation of a spread and the assumption with regard to the rate at which appreciation took place. I don't understand that the commission has found a rate of appreciation. It may have done so but I don't know of it. If the Commission's rate orders for various years are correctly stated by examining counsel, then my assumption would be inconsistent with the rate orders. My assumed valuation is something of a theory, but is, I think, founded on facts. [fol. 156] If I had used as the commission's base of 1920, \$9,853,529, plus additions and betterments for that year, I would arrive at the valuation of some \$10,000,000 or \$2,862,000 less than the valuation shown on my exhibit. If the commission's actual rate base, \$10,814,000, instead of my rate base of \$14,547,000 had been used for 1921, in complainant's Exhibit 27, the amount there would have been reduced by \$3,733,000, which would have materially affected the percentage as shown in the resulting return column. At the beginning of the period it would have increased about 10% and then about 20%, which would have brought the rate up to about 6½%, and in 1920 the increase would have been about 25%, which would have brought the rate to 6.4%, and in 1921 the rate of return would have been brought up to about 7.1%.

In respect to complainant's Exhibit 28, I have not assumed that all the commission's orders allowed an 8% return. I take 8% as my understanding of the rate the commission fixed over the period of years from 1918 to 1923, and 7% from 1924 on, and I stated verbally that it might be, with respect to the year 1923, the commission would have fixed a lower rate. I think the commission in its orders allowed and referred to, 8% as a fair return, during the period of years I think they have said that 6½% or 7% would not be fair. I don't know that I could say that they have specifically said that 6½% would be unfair. I think 8% was the general return [fol. 157] during the war period and the period immediately after the war. I can't say whether the 1919 order set 7% or not. I do not think the commission at any time considered that 7% was adequate, but I cannot say positively. I made no examination of the orders to ascertain that. I accepted 8% as indicating what I believed to be the general view of this and other commissions. I can't say

what the exact amount was. Had I known that the commission during any of those periods would not have considered $6\frac{1}{2}\%$ or 7% to be confiscatory, I would not have used such rates in my calculations. I am showing my idea and their idea of a fair return. Had I known that the rates were fixed in an order at less than I used, I would have accepted it as a fair return but not as non-confiscatory, and I would have used it in this calculation.

If complainant's Exhibit 28 was designed to represent precisely what the commission did, I would alter the application of the 8% , conforming to the actual orders of the commission; but if the exhibit is to represent (as I intended) my opinion of the general conditions of that period, I should not revise it. Had I followed the rate of return in the actual valuations as fixed by the commission, assuming that the figures which you have read to me in your questions represent the findings of the commission, even then the return for the period probably would have been less than $6\frac{1}{2}\%$, perhaps as low as $6\frac{1}{4}\%$, which would be too low for that period of years.

[fol. 158] The inference does not follow in my calculation that I do not accept any of the orders or rates laid down by the commission as being in fact fair. What I have done is merely to take a certain index which seemed to me might be helpful. I have taken the second index, which represents the company's contention. I have not taken the rate base established by the commission each year, nor perhaps the exact rate of return established by the commission, in reaching my conclusions in complainant's Exhibits 27 and 28.

I have perhaps discussed with the water company the effect of Order No. 7080 in question here, and I presume that when this order was entered, the water company knew my position in respect to the proper valuation of their property and in respect to a fair rate of return. I introduced all that in evidence before the Commission. I assume that the company was familiar with my position.

Facing the fact that I believed the commission's valuation of \$15,260,000, as of 1923, was confiscatory, I recommended to the company extension and development which would amount in the next year to \$1,000,000, and I recommended an increase in the salary of the Manager from \$12,000 to \$15,000.

I believe that I did, in June, 1923 make an address on the Indianapolis Water Company, its condition of property and service, and I stated that the general condition and the standard of its service are excellent. In that address I discussed both minimum and maximum [fol. 159] improvements. To a certain extent I recognize that the budget of the company is a matter which may submit to adjustments, not however by getting second-rate men to operate the works. In June, 1923, the service and plant of the company have and were kept up in the best of condition and rendered an excellent standard of service.

As I have stated, during the war period the margin of safety could not be kept up because capital was not available, but within that

limitation the service had been of the very high standard, and the service since the war has been good. I think the service for fire protection has been so satisfactory that insurance rates in the City of Indianapolis have been lowered, and I assume that the lowering of insurance rates was partly due to the testimony of the officials of the water company as to conditions and service.

I think Order 1400, which was issued in 1916, fixed the valuation of the property at "at least \$9,500,000." I don't know whether Mr. Slattery, representing the Indianapolis Water Company, stated to the commission that that rate base was satisfactory to the company.

We plan, as complainant's exhibit shows, to increase the meters in the city by 5,000 in 1924. In the long run this will make an economy of approximately 20%. Under the order in question here, I think probably 50% to 60%, and perhaps 80%, of the service will be meterized. The future only can answer that.

[fol. 160] In complainant's Exhibit 24 I show interest at 5.5% on \$4,500,000 of the company's bonds, and show there that on the remaining bonds now outstanding the rate of interest is 4.5%. The preferred stock of the company was retired last summer. The preferred stock paid 7%. I am not sure, but think if the preferred stock was redeemable at the will of the company, the 7% preferred stock was redeemed and the money to redeem it was obtained by bonds of this 5.5% issue. I think the bonds mature in 30 years.

I do recognize and have recognized the theory of life of property and the theory of age in connection with depreciation.

Redirect examination.

Questions by William A. McInerney.

The amortization of \$17,800 on account of 1920 taxes, which I have discussed, was ordered by the commission to be amortized in five years, and they began last year to amortize the total sum, which was five times \$17,000 approximately, so that the amortization is \$17,800 for each of the four years following 1923.

[fol. 161] ALBERT BAKER, being treated as a witness on behalf of complainant, being first duly sworn, testified as follows:

The contract of 1870 between the city of Indianapolis and the Water Works Company of Indianapolis continued in force from that time until the order of the Indiana Public Service Commission, No. 1,400, except as modified by temporary contracts, one of which was in force at the date of the order. In 1922 the Indianapolis Water Company accepted and indeterminate franchise.

Complainant rests.

HARRY BOGGS, a witness called on behalf of defendant, Public Service Commission of Indiana, being first duly sworn, testified as follows:

Direct examination.

Questions by Edward N. White, Esq.:

I am an auditor and Chief Accountant of the Public Service Commission of Indiana, and have been so employed since May 1, 1918. Prior to 1910 I was a bookkeeper for a good many years; was employed as a field accountant or field examiner to the State Board of Accounts of Indiana in May, 1913, was transferred to the Public Service Commission as auditor, serving until May, 1918, when I was appointed Chief Accountant.

[fol. 162] I made an examination and audit of the books of the Water Works Company of Indianapolis and the Indianapolis Water Company covering the time from October 7, 1869 to December 31, 1914. Mr. Fulling and myself made the defendant's Exhibit 44. Mr. Fulling was an accountant of the Commission. We worked in conjunction. This report shows what the books of these companies showed during the years 1869 to 1914.

I also made an examination and report of the records of the Indianapolis Water Company from January 1, 1923 to March 31, 1924—Defendant's Exhibit 45. The examination and report, correctly state the records of this company during that period.

Cross-examination.

Question by Taylor E. Groninger, Esq.:

We made an audit for 1922 and carried those figures over into the audit of 1923 and the three months of 1924, January, February and March.

Defendant's Exhibit 44 shows a note in regard to the mortgage which was in question this morning. The note was taken from the minutes of the company's books and is, in part "Mortgage covers all property of the company now owned or that may hereafter be acquired, excepting the lot where the office is now located and about 64 or 65 acres adjacent to Riverside park"—that and the remainder of the quotation was taken from the minute books. The language appeared in the mortgage covering the \$10,000,000 issue of January 1, 1910, known as the first refunding mortgage [fol. 163] of the Indianapolis Water Company.

Defendant's Exhibit 44 also shows a stock and bond statement which covers the subject-matter of securities. The first mortgage bonds are 6%, the original issue in 1881. Those are the bonds of the old company. The second mortgage in 1883 was 6%. In 1889 there was a funding mortgage issue of 5% and in 1896 there was a refunding issue of 5%. In 1906 there was a 4½% gold mortgage bond issue, and in 1910 there was a first and refunding

mortgage bond, bearing 4½%. The highest rate from 1881 to 1900 was 6%. That was in 1881 and 1883.

Cross-examination.

Questions by William A. McNerny:

My Exhibit 44 purports to be excerpts from the corporate records of complainant, not in the shape of figures but early history of some of the more important transactions. The exhibit starts at the beginning of the operation of the property in 1869 and leads down to 1914. It shows the reorganization agreement under which the second mortgage bond holders arranged for the sale of the property and the reorganization in 1881.

My Exhibit 45, shows the identical gross income figures for 1922, 1923 and 1924 that are shown by Mr. Jirgal's audit in complainant's Exhibit 15. So far as I know, complainant's Exhibit 44 is identical with what has been termed "The Boggs Audit" in the parlance of the water company cases.

BENJAMIN PERK, a witness called by the defendant, City of Indianapolis, being first duly sworn, testified as follows:

Direct examination.

Questions by Taylor E. Groninger, Esq.:

[fol. 164] I live in Indianapolis and specialize in investigation of public utility rates, finances and accounts. I am a graduate of the University of Chicago. I was on the accounting staff of the Public Service Commission of Indiana from 1917 to 1919, with the exception of ten months. After that I was associated with a firm of public accountants in Indianapolis for three years, for which firm I did public utility work only. Since November, 1922, I have been in that work for myself. I am consultant for the City of Indianapolis on utility matters. This office was created in January, 1924. I have made approximately 115 investigations of rate matters and security cases and have made a study of the Indianapolis Water Company. This study began in June, 1923, and carried me throughout the rate case before the Public Service Commission and this case. My source of information with respect to the Indianapolis Water Company is, the actual books of the company, the sworn annual reports of the company and the audits on file with the commission. These audits include the "Boggs Audit," known as the Commission's Audit 62. From these sources I have prepared a set of exhibits.

Defendant's Exhibit 48 is a statement of the actual investment of the property. The first item on the first page is the total actual investment up to December 31, 1912. The second item in that Exhibit is the investment from January 1, 1913 to December 31, 1922. Separation was made in view of the fact that the property and [fol. 165] plant accounts from the first of January, 1913 up to the

present time are in much greater detail than they were prior to January, 1913.

On page 2 of Exhibit 48 is shown the total investment in all property and plant by accounts as reflected on the books of the company. The first group of accounts constitutes the totals from April, 1881 to December 31, 1912 and total \$5,292,675. The second group of items on page 2 of Exhibit 48 shows a total of \$583,509 and comprises items which the Boggs Audit shows should have been in property and plant accounts, but which in fact appear on the books of the company as operating expense. The total of the two groups of accounts is \$5,876,000 and is represented by the first line on page 1 of Exhibit 48.

On the second page, at the right-hand side, is the account from January 1, 1913 to December 31, 1922, and in the last column appears the account for the year 1923. The accounts set out on the right-hand side of Sheet No. 2 of Exhibit 48 are all the capital accounts of the company. In the list of capital accounts there is no showing of development costs which indicates that from January 1, 1913 to December 31, 1923, nothing was charged to capital accounts for development costs. The accounts include all structural overheads from 1913 to 1923 which are charged to capital accounts. No charge for interest during construction appears in the capital accounts; no taxes during construction are charged to capital accounts.

[fol. 166] On the third page of City's Exhibit 48 is a yearly accounting of all additions and betterments to the property. The total of these is \$9,195,908. This sum includes an item called "Depreciation Reserve Fund" which has been invested in the property and plant.

I have prepared Defendant's Exhibit 49 showing the total investment in land owned by this company. That amount is \$488,050.21.

Defendant's Exhibit 50 shows the sources of the money invested in the property. The second line of that Exhibit deals with an equity in assets other than property and plant—I mean by that the excess of the current and deferred assets over and above the current accrued liabilities, materials and cash on hand, prepaid items, over current liabilities such as notes payable, unearned revenues, etc. The first figure represents property and plant. The \$49,720 represents the equity in all other assets. The total investment includes the sum of \$5,177,000 cash realized from the sale of stock and bonds, also \$644,000 of depreciation reserve monies reinvested in property and plant, and includes \$1,423,000 of surplus earnings reinvested in the property. The surplus earnings represent the balance that remained in the business after there had been paid in cash to the bond holders and stockholders the equivalent of 6.4% per year over the entire life of the Indianapolis Water Company on the total cost of the property. The original common stock of the Indianapolis Water Company was \$500,000.

[fol. 167] Defendant's Exhibit 51 is an exhibit showing the actual expenditures for overheads from 1881 to January 1, 1924, as shown by the books of the company. That exhibit shows \$254,635

of overheads charged on the books of the company as operating expenses. The total overheads up to December 31, 1912, were \$274,279. That represents 5% of the property and plant account up to that time. From April, 1881, to December 31, 1912, the books of the company show no interest charged to capital, no taxes during construction or interest during construction, charged to capital. The first group of overheads in Defendant's Exhibit 51 are set up in the exhibit as they are because a greater proportion were items charged to operating expenses. After 1913 the Company's records of the plant account show actual overheads charged to capital.

The second group of overheads, amounting to \$225,691, are all charged to capital accounts on the books of the company, being the equivalent of 7% of the plant investment during the ten-year period from 1913 to 1923. During that period the capital account showed no development costs. The total actual overheads as reflected by the books of the company and as shown in Defendant's Exhibit 51 amount to 5.8% of the investment over the entire life of the plant.

Defendant's Exhibit 52 shows \$644,749.22 as money taken from depreciation reserve and reinvested in plant and property of the company. The depreciation fund as of December 31, 1923, which is yet [fol. 168] unexpended, is \$354,357. This represents a total accumulation from April 1, 1909, to December 31, 1923. This amount is analyzed on page 2 of Defendant's Exhibit 52. On page 2 is shown the amount charged to expenses for depreciation year by year from April 1, 1909. In the second column on that page is shown amount expended for renewals and replacements. There has been a total charge to depreciation in the fourteen-year period of approximately \$1,117,000. Of that \$170,000 was expended for renewals and replacements, leaving a balance of \$946,842 to be carried in the reserve. There are certain other adjustments in respect to the depreciation account, which bring the total accumulation up to \$999,106. The present ledgers of the company at this time will show a depreciation reserve of \$539,373 instead of the \$999,106 which I show, and this difference is explained by the fact that there was eliminated from the books of the company the total depreciation that had been accumulating prior to January, 1917, by a credit to property and plant account; that is, the present balance sheets submitted by the company show the depreciation reserve only from January 1, 1917, to December 31, 1923. The figure of \$999,000 of accumulated depreciation reserve, as found by me, is set out on page 1 of Defendant's Exhibit 52 and from that is subtracted \$644,000, the amount invested in property and plant. The company has a journal entry relating to the use of depreciation fund for "new construction, extensions and additions," which quotation is set out on the first page [fol. 169] of Defendant's Exhibit 52. This is the first time that the records show affirmatively that the depreciation reserve is actually invested in property and plant.

The book value of \$13,222.285 presented in Defendant's Exhibit 53-first item corresponds or agrees with Mr. Jirgal's figures in Complainant's Exhibit 15. The second item on that exhibit, \$4,154.274, is a write-up. The next write-up shown is \$47,500, which does

not represent any cash expenditure for real estate, but is an entry in the surplus account increasing the real estate to that extent.

On March 31, 1910, \$1,004,000 going value was placed on the books of the company and added to capital by crediting the surplus account. The item of \$122,000 on Defendant's Exhibit 53 is called plant equipment on the books of the company, but represents costs of refunding bond discount, commissions and exchange items, all of which are explained by a journal entry on page 111 of Journal No. 5—company's books.

There is another write-up of \$199,667. That appears in property and plant accounts and, to quote from the company's books, "is on account of pavements which have been laid during the period from March 31, 1909, to December 31, 1913, over existing lines subsequent to pipe-line construction." This entry was made on the books of the company in 1913, and the item is a charge for paving which the company did not do.

These total write-ups less the write-down, shown on Defendant's Exhibit 53, represent a net total of write-ups of \$4,609,886. Deducting this amount from the total book value of the company, \$13,222,285, the difference is \$8,612,399, which is the actual total [fol. 170] investment in property and plant as reflected by the books of the company and as shown in defendant's exhibit 48.

I have prepared defendant's exhibit 54, which is a capitalization exhibit as of January 1, 1924. The original common stock of the company was \$500,000. The common stock on January 1, 1924, was \$5,000,000. The difference between the \$500,000 and \$5,000,000 was occasioned by a stock dividend of \$4,500,000 declared on the original common stock. This \$4,500,000 dividend was declared December 31, 1910. There was also a series of bond dividends totaling \$3,000,000. These were declared on the original common stock of \$500,000. So there is \$3,000,000 in bonds and \$4,500,000 in stock which represent dividends.

The first order of the Public Service Commission was issued in 1917, Order No. 1,400; valuation, \$9,500,000. In 1918 there was a new rate base fixed, but the 1917 rate base was used and to that was added additions and betterments (defendant's exhibit 55, Note 1.)

In 1919 there was an order fixing a valuation of \$9,719,000, which increased the rates to yield substantially 7% on \$9,853,529. The value was found by taking the value of the year before, adding the additions and betterments and subtracting the accrued depreciation for the period. In 1920 the same procedure was followed. In 1921 a new rate order was approved and the rate base fixed at \$10,814,000. Had the method of taking the rate base for No. 1,400, [fol. 171] and adding to it the additions and betterments each year been followed, in 1921 the rate base would have been \$10,531,726. The difference between the last two items is explained by the fact that the 1921 order was issued in March and included an estimate allowance for expenditures for 1921. The experience of the year shows less expenditures than were estimated. Coming up to 1922, by adding additions and betterments each year to the original rate base of the 1917 order, defendant's Exhibit 55, shows an average

value during the year of 1923 of \$11,133,000. The average value is a value at the first of the year plus the value at the close divided by 2. This average valuation is used as the basis of calculation on the second page of defendant's exhibit 55, which second page of said exhibit shows the rates of return on the property and plant on the basis of rate order No. 1,400, plus additions and betterments. The rates of return on the basis described are: 1917, 5.88%; 1918, 5.64%; 1919, 6.51%; 1920, 6.82%; 1921, 7.45%; 1922, 7.95%; 1923, 8.27%. The investment value of the property was much less than found by the Commission. The rates above calculated do not apply to the investment value but to the commission value. The order in litigation here, while it was approved in 1923, did not go into effect until 1924.

I prepared an exhibit showing the gross property and plant investment and the earnings and dividends for all years on one sheet of defendant's Exhibit 56. The first column shows the total cost [fol. 172] of property and plant at the end of each respective year from 1881 to 1923, inclusive. The total figure at the bottom is the same figure shown in defendant's Exhibit 48. The second column in defendant's Exhibit 56 shows the actual income available for return on this gross property and plant investment, and the third column shows a per cent return in each of these years on this property and plant investment. The lowest percentage during the life of the property back to 1881 is 6.10%, 1903; the highest is 10.4%, 1895. The recent figure of 10.1%, 1922, and 10% 1923, and the average available income for the entire 42-2/3 years is 8.6%. The fourth column shows a net income available to stock after payment of all fixed charges. The red figure represents a deficit in the eight months ending December 31, 1881, 4.2%. This was occasioned by heavy payments of interest in the first part of 1881. There are no deficits since that time.

The per cents of return shown on the exhibit for the common stock are the actual per cents available to the common stock which was outstanding at the end of each of the years for the entire period from 1881 down. Until 1911 the common stock was \$500,000, and in that year a stock dividend was declared making the total common stock \$5,000,000 so that the per cent return from 1911 on is on the basis of \$5,000,000. The highest return on \$500,000 common stock is 44.4%.

[fol. 173] In defendant's Exhibit 56, in the column under "Cash Dividend," are shown the dividends in bulk, the actual amount. The total figure for cash dividends was \$4,585,533.50. The total of bond dividends was \$3,000,000. The highest bond dividend was 160%.

For the four year period, 1920 to 1923, as shown in defendant's Exhibit 57, the increase in meterization was 73.4%; the increase in flat rate customers 21.7%. The total increase was 28.5%.

Defendant's Exhibit 57 shows approximately 6,000 more services than there were customers. On page 2 of Exhibit 57 is shown the increase in income for return for the year 1922 over 1921, and the year 1923 over 1922. With the exception of three months of 1921,

when there was an increase in rates, the same rates were effective for the various years. The actual investment in capital during those years is also shown on page 2 of Exhibit 57. The year 1923 included the highest quantity of capital expenditures ever made by the water company.

I have made a study of the income for the first 3 months for 1924 in comparison with that of the first three months of 1923, to determine what the income of 1924 would be in the light of the 1923 income. In this study is shown a difference between Mr. Jirgal's and Mr. Boggs' set-ups for the three months of 1924 (defendant's Exhibit 58). Their exhibits show as a part of operating expenses an item called amortization of taxes. That item is eliminated from my [fol. 174] income account (exhibit 58). The other difference is in the depreciation set-up for the year. The books of the company for the first three months of 1924 show the depreciation at \$33,783.05. Now, the order fixing this depreciation read that depreciation shall be on the basis of "Not in excess of 1.25% per annum on the cost of depreciable property." If the calculation were made on the cost of depreciable property, the figure would show \$6,705 less than that which appears on the company's books for the first three months. Making these corrections I show gross income \$263,692 for the first three months of 1924, compared to \$214,000 for the first three months of 1923, or an increase of approximately \$50,000 for the three months period. With the exception of those two items, Exhibit 58 contains the same figures as the commission's audit.

On the second page of Exhibit 58, I have made a comparison of the income of 1922 and 1923. The only difference between this exhibit and those of the other accountants is that I have eliminated \$17,800 of tax amortization. That tax amortization came about in this way: In 1920, in this company's rate case before the commission, the company presented evidence to show there had been an increase in taxes to the extent of \$89,000 during that year and which the commission had not taken account of in its previous rate order, and they asked that this be amortized. The commission ordered an amortization of this amount in 1921, payable \$17,800 annually. Until 1923 the books of the company have never shown that item as an operating [fol. 175] expense. It was never submitted as an operating expense in the evidence before the commission in the previous rate orders. Another reason for its elimination is that, as it is now handled on the company's books, it is charged to expenses and credited to surplus. In other words, we have an item of expense that actually increases surplus. Expenses in fact reduce surplus. The third reason for elimination was the basis of the amortization, that basis being a deficiency in return in 1920 below the 7% that the commission calculated in that order. It would follow that in subsequent years when the rate went over 7%, the excess of return ought to offset the deficiency. In other words, the difference was recouped in 1921, 1922 and 1923. Amortization of taxes was included in both Mr. Jirgal's and Mr. Boggs' audits.

The income available for return in 1923 on the basis above described was \$920,167. My exhibit shows disposition of that item,

as follows: Payment of interest; amortization of bond discounts; payment of 7% dividend on preferred stock; payment of 8% on common, and then the surplus for the period. The surplus for 1923 was \$73,076.57.

On the third sheet of Exhibit 58 it appears that the company received \$10,087.10 as interest on deposits in 1922; \$6,122 in 1923; \$2,126 for the first three months of 1924. Slightly less than 50% of the customers of the company pay for their service three months in advance.

[fol. 176] There is an increase of revenue through the summer months as compared with January, February and March. The industrial business is 10% of the total business, 10% of the revenue.

I have prepared defendant's Exhibit 59, which is an estimated return for the year 1924 under the order complained of in this case. This exhibit shows that the income available for return for the year 1924, estimated as explained in the exhibit, will be \$1,121,550. Page 2 of the exhibit explains how I arrived at the revenue for 1924. The experience of the first three months of 1923 shows that those three months were 23.98% of the year. Instead of multiplying the first three months of 1924 by 4, I assumed that they would equal 23.98% of the total year's revenue. In other words, I assumed they would bear the same relationship to 1924 as the first three months of 1923 did to the entire year of 1923, and that brings the entire revenue of \$2,208,000. To that I add \$15,000 for free services which were not charged for during 1923 and items which are not reflected in the revenue for the first three months of 1924. These items represent services, the greater part of which are for five months of the year, they being parks, golf courses, recreation centers, etc. The \$15,000 is based on an exhibit introduced by the company before the commission last summer. This \$15,000 I estimate will yet [fol. 177] come in in 1924 revenue under Order 7080 for the free services which the order declares should be charged for. That gives a total revenue of \$2,223,000 which represents an increase in total revenues of \$357,000 over revenues of 1923. This increase is calculated under the new order complained of in this case.

The expenses are calculated in the same manner for the items of pumping, distribution, commercial and general expenses, and that method of calculation shows a total for the year 1924 of \$614,000 compared to the total of 1923 of \$517,000, or an increase of approximately \$92,000. The increase in the payrolls is scattered all through the expense account. All items of labor in pumping, distribution, commercial and general classification show increase for the first three months of 1924 over the first three months of 1923, and that increase in expense is projected forward for the entire year of 1924.

On the third page of Exhibit 59 I have added taxes that will actually be paid in 1924. They are based on the 1923 assessment and amount to \$276,000, and I add to that the increase in taxes on additions since the last assessment. It makes a total of state, county and local taxes of \$296,000. To that I have added the Federal Income Tax and capital stock taxes, also the depreciation calculated as ordered on the basis of 1.25% of the total cost of depreciable prop-

erty. That brings the total operating expenses to \$1,102,000, which is brought forward to page 1 of Exhibit 59 and subtracted [fol. 178] from the revenue, leaving available for return \$1,121,000. In estimating the tax I used the tax base submitted by the company a few weeks ago to the State Tax Board. They based the statement on the \$12,085,000 assessment of 1923 plus \$851,000 of additions and betterments made during 1923. The sum of these two amounts is my tax base. I also show on that Exhibit 59 that the rate of return afforded by the income on the original cost of the property is 13.1%. The income will afford a return on the value of the property built up on the basis of Order No. 1400 of 9.7%. It will afford a return on the basis of Order 7080 plus net additions to date of 7%. It will afford a return of 6% on \$18,692,000, or 9.3% on \$12,000,000 and \$12,000,000 is the value the city asserts is a fair value for rate purposes.

Cross-examination.

Questions by William A. McInerny, Esq.:

My figure of \$9,115,312, as shown in Exhibit 48 is the total actual investment in property and plant, and is not comparable to Mr. Hagenah's cost of property as shown in complainant's Exhibit 3 and composed of \$9,165,461 for the cost of plant, plus \$878,335 of overhead, or \$10,043,796 and it is not comparable for the reason that I do not include structural overhead. If I add structural overhead to my \$9,115,000 item, it will be comparable to the \$10,043,000. Mr. Hagenah begins the development of the property in 1869; I began mine in 1881. Defendant's exhibit 51 is an analysis of overhead charges from 1881 to 1923 as shown by the books of the company, and the book value and overhead allowances in my exhibits [fol. 179] start with 1881 and include only such as are disclosed by the books and nothing before 1881.

Defendant's Exhibit 52 deals with depreciation figures of the present company only. On page 2 is shown the amount set up, beginning with 1909 down to 1923. There was a legal requirement, I think, for the company to set up depreciation reserve prior to the establishment of the commission. I have found such reserve set up frequently since 1909 and do not think that the decisions of the court disallowed depreciation reserve as a part of the expense of operation prior to 1909. The order of 1917 of the Public Service Commission was the first order affecting depreciation, wherein a specific amount was set aside for depreciation purposes and carried to reserve. I am familiar with the Public Utilities Act, and prior to Order No. 1400 of March, 1917, there was no determination by the commission of the depreciation item.

About the time of Order No. 1400, the company wrote down its property and plant account to the extent of \$500,000 in depreciation reserve and \$450,000 in surplus. Order No. 1400 was the first requirement of the commission and the write-down was made as of December 31, 1916.

In defendant's Exhibit 52, I have not made a deduction of

\$214,000, for loans made from depreciation reserve fund, but have merely set up this general entry to illustrate that on the books of the company, in 1923 they arrived at the amount that was invested [fol. 180] from depreciation reserve in identically the same method that I did over the entire accumulation of the reserve. In others of the defendant's exhibits I have shown the total depreciation reserve invested in plant account as deducted from the property and plant total cost.

I am familiar with the regulations of the commission in respect to depreciation reserve. There may be temporary loans from the reserve fund used in extensions and betterments. They must be restored and the money must not be capitalized. If the \$214,000 entering into the property, instead of being borrowed from the depreciation reserve, had been borrowed from the bank, and shown on the balance sheet as payable, the fact that the credit was used at the bank would not allow you to write it down to property and plant account. The procedure would be the same, for the reason that the depreciation reserve is a method used to show on the books of the company the aggregate depreciation in the property. I would not deduct from the plant account borrowed money. I would have deducted depreciation reserve account and the procedure would be the same thing. The borrowed money from the bank did not change the amount of depreciation reserve on the balance sheet. The deduction which I have made is the measure of accrued depreciation and is also the measure of depreciation reserve money invested in the property. The accrued depreciation from April, 1909 to December, 1923 would be measured by the total figure \$999,000, whereas the [fol. 181] amount of depreciation money invested in the property would be \$644,749. There have been decisions which hold that the amount invested in property should not be depreciated, the effort being to maintain the actual sacrifice of the owner by investment. Whether this practice is the more common among those commissions which give greater weight to the question of original cost, I can not say.

Defendant's Exhibit 55 shows that the total extensions and betterments to the property in 1922 were \$300,470. I did not testify that the State Tax Board made assessments in 1922 of \$10,800,000. I don't know what the assessment was in that year, and I did not testify that the valuation as fixed in 1923 was \$12,000,000 plus.

On page 2 of Exhibit 55 the rate of return on the value of property and plant, from 1917 to 1923 is determined on a value found by taking the value fixed in the commission's order No. 1400 and adding to that the additions and betterments spent to date. In 1923 the commission put a valuation on the company's property for rate-making purposes, as of May 31, 1923, of \$15,250,000 plus. My exhibit shows the value built up under Order No. 1400, approved March 17, 1917, but not including the present Order No. 7080. On the commission's value under that order and with \$780,000 plus betterments from the time of the order to the end of the year, you would have a basis on which the income would yield a return of approximately 6%.

The figure I used as a net available income for return in 1923 [fol. 182] is \$920,167 as against \$902,000 shown in the Boggs' and Jirgal audits. This difference is due to the fact that I eliminated \$1,800, amortization of taxes, which the other audits carry.

I am familiar with the order of the commission, approved March 21, 1921, and that is "that the sum of \$89,000, representing the increased tax payment for the year 1920, be recouped to the petitioner and that the same be set up as an operating expense to be amortized off for a period of five years, or in the sum of \$17,800 during each year." I do not recall that in the order of 1921 there was mentioned any specific rate of return.

I am not familiar with the fact that the Supreme Court has amortized deficiencies, caused by bad judgment of the commission, as to operating expenses.

Defendant's Exhibit 56 sets out earnings on common stock and dividends paid. From 1881 to 1885 no dividends were paid. In 1885 \$10,000 was paid on \$500,000 common stock. In 1886 \$5,000 was paid; \$20,000 the next year; \$10,000 in 1888. There was only about \$50,000 of cash dividends paid in the ten-year period ending with 1890. That was the year they declared a \$200,000 bond dividend. I have made no effort to determine the effect of the absence of dividends over those ten year by compounding a reasonable payment upon the dividend, or to ascertain the actual deficit to the owners as against the situation where they might withdraw reasonable dividends, but I find there were earnings available for the [fol. 183] stock, although the cash dividend was not paid out. The dividend was reflected in the property and plant investment, and the money remained in for the building up of the property and reduced the amount needed to pay out on borrowed money. Had they borrowed money instead of reinvesting it, there would have been a greater deduction from gross income for interest on bonds.

In Exhibit 56 I discuss the history of the company over forty-three years. I do not recognize any element of appreciation in land values, since there is no record made of appreciation, the purpose of that exhibit being to show the return on the actual dollar cost of the property and plant. The books of the company do not disclose that the write-up in 1909 or 1910 was due largely to land. Of the appreciation of \$4,000,000 entered at that time, less than \$500,000 was due to land, the balance being appreciation on the distribution system, etc. I do not desire to question that the average gross property and plant account, from 1881 to 1890, as shown by city's Exhibit 56, is \$1,175,780, or that during that period the dividends in cash and bonds amounted to \$250,250.

On page 2 of Defendant's Exhibit 57, I say that an increase of income is available for return for the years 1922 and 1923 and the first figure there of \$77,000 is the increase of 1922 over 1921. As I previously testified, Order No. 5798, approved, March 21, 1921, did not become effective until April, 1921, but was effective for all of 1922, and part of the increase of 1922 over 1921 was accounted for by that increase in rate.

In defendant's Exhibit 58, there is a comparison of the income

[fol. 184] account for the first three months of 1923 and 1924. The difference between Mr. Jirgal's and Mr. Boggs' and mine is due to the elimination by me of the tax amortization of \$17,800 and to a reduction of some \$6,000 on a depreciation allowance for that period. The tax amortization for three months would be only one-fourth of \$17,800. I am familiar with the fact that Order No. 7080 refers to an increased depreciation charge of approximately \$37,000. The books show the increased depreciation, and that, with other items, amounts to a total of \$105,000, and the order sets out that there will be about \$800,000 available for return on the property for 1923. The order I used was not that paragraph, but a paragraph of the order itself at the last page, which provides for depreciation not in excess of 1.25% per annum on the cost of the depreciable property. It was that part of the order which I used in calculating the depreciation, so that the increase in depreciation would be on that basis, \$20,000, instead of \$37,000, which the commission mentioned.

On the last page of Exhibit 58, among the non-operative revenues, I have an item called "Interest on deposits" of \$10,000 in 1922 and \$6,000 in 1923. That refers to bank deposits. The interest on deposits accrue in part from accumulation of money for bond interest accruals, some for tax accruals, some for dividends and surplus accruals.

[fol. 185] WALTER S. BEMIS, a witness called on behalf of the defendant, being first duly sworn, testified as follows:

Examination in chief.

Questions by Clair McTurnan, Esq.:

I live in Chicago and am a consulting engineer in utility inventory and appraisal. Received degree in mechanical engineering from University of Wisconsin in 1915 and since that time have been engaged continuously in this line of work in the organization formed by Edward W. Bemis. During that time I have had charge of the engineering phase in the appraisal of several hundred million dollars' worth of property.

I have made a study of the Indianapolis Water Company and the appraisals and inventories of it. About ten months ago I came to Indianapolis and made an investigation, which lasted two or three days, of the physical parts of the property not concealed under ground. I examined as completely as possible the records made in the valuation of the property, both in the valuation proceeding and certain working papers prepared by the commission's staff. I went behind that analysis and studied certain other appraisals made by different men employed by the company at times preceding that hearing and familiarized myself as extensively as possible with the matter with the limitation of time put upon me.

I have prepared a study of the appraisals of the commission's engineer made in 1923 and of certain figures of the company and cer-

[fol. 186] tain prices of the company which they have utilized before the commission with respect to the questions of age and life of the property. The inventory of 1923 and the appraisals of the commission's engineer of 1923 I have carried down to date in this study, so that it represents the present condition. I have taken the data from the appraisal of the commission's engineering department as of April 1, 1922, which is included in defendant's exhibit 34, and also studied defendant's Exhibit 35, which appraisal was brought down to date as of December 31, 1923. My study takes data from both of these exhibits. My exhibits represent processes starting with cost new on the ten year average price from 1911 to 1920, as submitted by the engineering department of the Indiana Utility Commission. I have applied to the cost new, reproduction cost new, the actual age and estimated total life of the different elements of the property. The estimated total life which I use in the case of individual items is that estimated life used by Mr. Metcalf, consulting engineer, who has testified in this proceeding, in a previous report which he made in 1916. The ages of the different elements of the property used by me were the actual age of the property in existence in 1916, as found by Mr. Metcalf, and that report adjusted by getting the actual age of the additions made to the property subsequent to that time; using the ages and life thus determined, the cost new, less accrued depreciation, was determined on the straight line method of depreciation. In [fol. 187] computing the straight line method of depreciation, the estimated total life of an individual item of property is divided into the cost new, the depreciable portion of the cost new, the result being the annual depreciation which applies on that price level. The annual depreciation is then multiplied by the age and years of the property, thus obtaining the accrued depreciation. Subtracting the accrued depreciation from the cost new, you have the cost new less accrued depreciation.

After depreciating the total property on this method as of December 1, 1923, but using the ages through to April 1, 1924—the nearest point to this hearing—four adjustments were made consecutively to this total. One adjustment due to the fact that the commission's appraisal included the structural overhead on land, and also the estimated cost which would be incurred in the accumulation of right of way as one consecutive piece of property. The overhead and the cost of accumulation of right of way were deducted as the first adjustment based on my interpretation of what the Minnesota Rate Cases called for on that subject.

The second was in connection with cast iron pipe. Mr. Carter, engineer for the commission, in his appraisal on the ten year average basis, 1911 to 1920, used the price for cast iron pipe f. o. b. Indianapolis, found by averaging the monthly prices which he believed were in effect for this pipe over the entire period of time. Thus his resultant prices is an average of 120 averages, weighting [fol. 188] each one equally. However, the company did not purchase this pipe in equal monthly installments over this entire period. As a matter of fact, it purchased more pipe when the market was at a lower point and less when at the higher market, following the plan

of a well-managed company to buy at low rather than the high point of the market. Using the average cost per ton of cast iron pipe actually paid over this ten year period, *f. o. b.* Indianapolis, in place of the ten year average cost used by Mr. Carter, would have reduced his appraisal considerably, and the second adjustment consists of the application of this adjustment to the total figures found by him.

The third adjustment is due to the fact that the company uses its hydraulic canal property or canal property for a dual purpose, first to supply potable water to the people and industries in Indianapolis and second, to be used for hydraulic power.

Below Riverside Station the canal is used only for the second purpose. There are other incidental uses to which the water is put, but which do not affect the people of the city as water users. The lower half of the canal below Riverside Station, in which the water is confined, is used for power purposes and passes through a considerable portion of the congested district of Indianapolis where land has high value.

The appraisal of the land occupied by this canal is on the basis of [fol. 189] the value of adjacent property. The only use to which the water in this part of the canal is put is the development of power and incidental uses, such as revenue from the sale of water for condensing purposes, the cooling of steam and other uses to certain industries along the canal. But this incidental use has nothing to do with the water development of the city. An equivalent service could be rendered through the installation of additional equipment at the Riverside pumping station and the addition of a pipe line down through the area immediately served by the Washington Street Station where this hydraulic power is developed.

The question as to whether the steam plant should be installed at the Riverside station, following exactly the same lines as the one now there, or whether the canal should continue to be in existence and used as a means for obtaining hydraulic power, is purely a financial one from the point of view of water consumers. So I have made an estimate of what it would cost to build the substitute steam pumping equipment at Riverside Station to take the place of the hydraulic equipment and power now generated at the Washington Street Station.

On account of the coal involved, the cost of operation on the steam equipment would be greater than the cost of operation of the canal property, but the investment in the steam equipment would be a great deal less than the value submitted for the hydraulic property [fol. 190] below Riverside Station.

Balancing these different elements I find that the canal property, if it has the value testified to by Mr. Carter, the engineer of the commission, is too expensive to be used for the development of hydraulic power, and in case the company is unable to obtain revenues from other sources, as the sale of water for condensing purposes and the rental of real estate to outside parties, to carry the excess in investment which they now have in the canal, over and above the expense of adding the Riverside Station, it is my opinion that they should sell the canal and substitute the other station.

In connection with the canal property the company has an additional expense of taxes which would be much in excess of the taxes required from a substituted pumping station.

Mr. Daniels: I think the complainant wants to move to strike out all this witness' testimony with respect to this alleged substitution of something for the present existing canal. Under the law it is not the province of the Court to enter on the merits of what is actually here for appraisal and valuation, and what this witness' opinion may be of something that could be substituted for the canal, I think is wholly immaterial.

The Court: What do you say to that, Mr. McTurnan?

Mr. McTurnan: In confiscation cases it is my understanding that [fol. 191] the elements not only of actual value, the actual investment and the reproduction cost, are considered, but there is taken into consideration whether the investment in the property is the kind of investment which could be subscribed to the public service, in the ~~view~~ of the Court, and made properly a charge on capital for return.

When, in fact, the value of the property involved in a public service utility functions, becomes of such value that it may be disposed of to the considerable advantage of the utility financially and its substitution can be had with considerable saving to the public, then the requirements of the property dedicated to the public service are that such changes shall be made. Now, when they shall be made is not to be determined by the witness, but the facts that bear on such consideration are proper subject matter for consideration of the Court in reaching the determination as to whether there is a confiscation of property.

The Court: How does that bear pertinently on the determination of the present value? Take the matter of substituting one kind of power for another; it may be entirely within the province of a commission to regulate in that way, but the Court has to take this plant as it exists and cannot, on the prompting of such discussions as we have had here, deny value.

Mr. McTurnan: If that is the Court's view of it, I would say that it has not application.

The Court: No. I do not think it has, and I am limiting my facts to such discussion that deals with mere substitutions.

[fol. 192] I can see how it can be urged that certain pieces of property should not in fairness be taken as a part of the valuation; that a part of the canal should not be considered as part of it, but on the main theme that the witness has discussed, I am quite well satisfied that the objection is good, in so far as it seeks to suggest a field for rebuilding the plant or making substitutions or changes.

Mr. McTurnan: I think I understand the Court has ruled on it, but I would like a point of information.

It turns on the understanding of the words "property used and useful". That is, if actually at the time in use, then regardless of whether it is practical or not, it is useful?

The Court: I think I tried to indicate yesterday, so long as it is useable and the Court cannot see that its presence as part of the

plant is colorable, only, then I think it is pertinent to sustain value. Motion granted.

To which ruling of the Court the defendant, City of Indianapolis, excepted.

The Witness: The next adjustment relates to structural overheads. Mr. Carter used 15% structural overhead. Mr. Perk shows the average of 7% structural overhead incurred by the company during the period 1911 to 1920. If the actual overhead be substituted in lieu of 15% adopted by Mr. Carter the fourth deduction is made.

Defendant's Exhibit 60 contains a summary sheet showing the figures on these four adjustments and the total figures as found by Mr. Carter. At the top of the page are Mr. Carter's appraisal figures [fol. 193] of 1922 of \$14,123,286, and the net additions from that date to December 31, 1923, \$1,005,495. In the next column is shown the annual depreciation on this method of valuation. By dividing the total life into the cost new, the last column, cost new less depreciation on a straight line method is obtained. I believe that the annual depreciation shown on this second column is a true indication of the amount that the company should set up on a straight line basis against this property. The total cost new which is used in determining the annual depreciation is not the actual cost, but a calculated figure and in excess of that amount, and this column is used for calculating purposes only on this basis of valuation.

A true annual depreciation, in my opinion, on the straight line basis should be found by dividing the total life into depreciable portions of the actual cost new of the property. In the case of this property that amounts to approximately \$140,000.

The next deduction in the exhibit for structural overhead on land does not require any explanation. The cast iron pipe deduction has been explained. After making these two cost adjustments the cost new, on the 1911 to 1920 basis, is \$14,005,000, and the cost new less accrued depreciation is \$10,500,000. If the structural overhead were reduced from 15% to 7% the total reduction would be somewhat in excess of the amount shown.

If the third adjustment on page 11 is eliminated, since that ad- [fol. 194] justment contains structural overhead to the extent of \$37,000, then the structural overhead adjustment would be approximately \$3,000 greater. Eliminating the third adjustment by including the fourth adjustment of structural overhead, we get a valuation of \$13,300,000, approximately, cost new; and \$10,000,000 approximately, cost new less depreciation. These are the revised costs new eliminating any consideration of the hydraulic adjustment. This is shown on pages 20 and 21 of Exhibit 60.

The Court: The record will show that this exhibit, which is Exhibit 60, will have to yield to the ruling which was made upon the witness' oral testimony with respect to substitutions, and any data contained in the exhibit requiring that sort of calculation is excluded.

(To which ruling of the Court the defendant, City of Indianapolis, by counsel, at the time excepted.)

The Witness (continuing): I have in another exhibit made an

estimate of the value of this property on another basis. The estimate is made in this manner: Taking Mr. Hagenah's appraisals on 1911 to 1920 prices, for all property except land and excluding structural overhead, the total valuation was found to be \$11,600,000. In this proceeding Mr. Hagenah's valuation of 1921, 1922 and 1923 prices for the property, with its additions, was approximately \$15,800,000. Of this total the net additions account for some of the differences throughout this period. Deducting from this appraisal [fol. 195] of Mr. Hagenah's the amount which Mr. Carter found to be due to net additions during that period \$950,000, the comparable figure adopted by Mr. Hagenah for 1921, 1922 and 1923 prices is \$14,900,000 as compared with his figure of \$11,600,000 on the 1911 to 1920 prices, and is an increase of approximately 30% on the 1911 to 1920 valuation. These calculations do not appear in the Exhibit, but I have indicated the calculations here.

In the \$10,000,000 testified to by me as a depreciated cost, on 1911 to 1920 prices, after giving effect to the three adjustments which I made, there is included approximately \$2,500,000 for land. This is shown on page 7 of my exhibit 60, and the figures contain approximately \$2,500,000 for land, which is set out in detail farther on in the exhibit. Subtracting this \$2,500,000 from the \$10,000,000 found as depreciated value, I have \$7,500,000 as the cost of depreciable elements of the property on the 1911 to 1920 basis of valuation, increasing this depreciable element by 30% in line with the factor used by Mr. Hagenah, we have \$10,000,000 and adding back to that \$2,500,000 for the land, we have \$12,500,000 which is comparable to Mr. Hagenah's present value on the basis of prices prevailing in 1921, 1922 and 1923.

Cross-examination.

Questions by Mr. McInerney:

Page 7 of my Exhibit 60 starts on the basis of reproduction cost figures on the average prices for 1911 to 1920. I made the adjustment [fol. 196] ment in Mr. Carter's valuation on the price used in his appraisal, which price contained an adjustment representing the difference between the published quotation on cast iron pipe and the actual experience of this company with the purchase of cast iron pipe. It was approximately 10% under the market price at the date purchased. I did not make the adjustment from Mr. Carter's question prices.

I reduced Mr. Carter's 15% overhead, not for the reason that Mr. Perk could only find 7% or 7½% for overhead on the books of the company from 1881, but because the basis of my calculation is on the period from 1911 to 1920, and for that period 7% overhead is shown. I do not know what Mr. Perk found in percentage of overhead over the entire period, but my figures being for reproduction value, I took the figures for the overheads during the period of 1911 to 1920 with which I was dealing.

It was my understanding that Mr. Perk testified that he found no items to cover interest and taxes during construction. Those are usually allowable on structural overhead on a reproduction method of valuation. They are usually put that way by engineers testifying. As to the Court decisions on that, I think that is a matter to be determined by seeing the decisions, but I think as a general proposition it is true.

I recognize no distinction between the sinking fund method and the straight line method of depreciation. The distinction is merely in the interest which the fund will bear. The straight line bears no [fol. 197] interest. So if we had a \$100,000 piece of property and its assumed life was ten years by the straight line method of depreciation, \$10,000 a year would be written down over a ten-year period. It is a question of depreciation in the writing down of property and occurs in all classes of property, private as well as regulated. In the assumed \$100,000, the \$10,000 a year is brought in in the revenue to begin with. It comes in and is cash in the hands of the company. Its disposition is entirely dependent upon what the company's officials desire aside from any mortgage requirements or trustee rights, and the money may be expended in the building of additions to the property, thus accomplishing its function as a protection to existing property, or \$100,000 of the original capital. The money can be returned to the owners of the property as reimbursement of its capital outlay if they desire, and forms to that extent a partial liquidation. The customary way of handling it is by making additions. In a non-regulated company, in the absence of any mortgage or trustee restrictions, the annual depreciation may be collected and withdrawn.

[fol. 198] EDWARD W. BEMIS, a witness called on behalf of defendant, City of Indianapolis, being first duly sworn, testified as follows:

Direct examination.

Questions by Clair McTurnan, Esq.:

I am a resident of Chicago; am 64 years of age. I am an engineer and appraiser, consultant in public utility cases. Am a graduate of Amherst; spent three years in a study of economics and history at John Hopkins, receiving a doctor's degree; taught in colleges and universities fifteen years; studied city utilities and laws of public utility relations. I had practical experience in charge of the water department at Cleveland from 1901 until 1909. That department was twice the size of the Indianapolis water department. I metered the entire city and introduced large extensions; was Deputy Commissioner of the Department of Water, Gas and Electric Supply in New York City in 1910. In 1911 organized a staff of engineers and accountants, which is maintained to date. Was a member of the Advisory Board of the Interstate Commerce Commission in the valuation of railroads for ten years. I have appraised water properties in many cities.

I made a study of the Indianapolis water department in 1906 and came into this case about ten months ago. Since that time have been [fol. 199] over the property and studied most of the exhibits and testimony in the cases before the commission and have heard most of the evidence. I have not made a complete appraisal of the property in the way in which I ordinarily do.

I have prepared defendant's Exhibit 61, showing the price curves for about 130 years. This exhibit shows the great rise in prices during every war, such as the Napoleonic, the civil and the world wars, and the great decline in prices after each. It shows how the peak was in January, 1923, and how it has been going down rapidly since.

Point "F" on the exhibit shows the conditions of a week ago as developed in Fisher's Index, which is a weekly one. I have used Fisher's Index for the last two months. For data previous to that period I used the United States Bureau of Labor Statistics. The two are remarkably close together. The exhibit shows a rapid fall in wholesale prices, beginning in February, which was interrupted in 1921 and 1922.

Defendant's Exhibit 61-A is a price curve based on Bradstreet's prices since 1912, and shows a resumption of the movement downward. The two exhibits show how fluctuating are the prices of a plant based on the prices of any one year or any two or three years, especially in a period of great upheaval. The United States Bureau of Labor Statistics shows the average of 1911 to 1920, inclusive, to be 142.9; that is, the average price for those ten years were 42.9% [fol. 200] above the 1913 figures. This is on a study of 400 commodities. For the ten years ending December 31, 1921, the averages raises to 147.6; for the ten years ending 1922, 152.5; for the ten years ending 1923, 157.9. But the prices of the index numbers have already gone down to 145.6, or only a trifle above the ten years ending 1920. The spot price today on present prices for this year's index of this utility would not be much in excess of the ten years ending December, 1920. The curve is not absolutely indicative of a local utility, there being local conditions that may affect it one way or another, but it has a marked guidance in determining the number of years taken into account in fixing the present fair value.

I have given consideration to a cost on the basis of 1911 to 1920 prices. I have taken the exhibit showing \$10,000,000 that Mr. W. S. Bemis just put in and compared that with the original cost given in Mr. Perk's exhibit, \$7,967,649.90, and compared it with the third sum which contained land at its present value instead of at its cost. The difference between the land at its present value and at its cost, taking Mr. Perk's figures for the cost and Mr. Carter's for its present value, is \$1,807,501. Adding that to the cost of the property as given by Mr. Perk, gives a total cost, plus present value of land, of \$9,775,151.69.

The prewar price method of appraisal gives a 1917 cost of \$9,500,- [fol. 201] 000 plus, and adding additions since 1917 which includes the high prices of the war period, there is a total of \$11,519,977, which includes land put in at an appraisal of 1917, about the same as now. There was no large difference between the land appraisal of 1917 and the present land appraisal. The original cost plus the

land's present value is a little under \$10,000,000. With the prewar appraisal we get \$11,520,000, while on 1911 to 1920 prices we get about \$10,000,000.

The depreciation which I used to arrive at the figures in the case of actual cost, plus land at its present value, was a sum equal to that accumulation in the reserve to meet depreciation, which amount was given by Mr. Perk to be less than \$1,000,000. In the pre-war appraisal \$9,500,000, plus additions since then at cost, I took the small depreciation made in reaching the \$9,500,000 in the 1917 appraisal and the accumulations in the depreciation reserve since then, so in both cases there was not any large deduction for depreciation. In the \$10,000,000 appraisal there was a large deduction for depreciation, based on the lives given by Mr. Metcalf and the straight line method.

I would define depreciation as a loss of utility—how much less it is useful. Much property, like an electric light globe is as useful until it is retired as it was at the start. It may be as full of illumination before it goes out as when it was installed; that is not what I mean by depreciation. Depreciation is a loss of service. The loss [fol. 202] of life is the depreciable part of the property. Such is the definition of the Interstate Commerce Commission in valuations, including railroad ties, rails and buildings, and everything except the road bed, which is not depreciated because it may be kept up by maintenance in a perfect state of repair.

In respect to the \$10,000,000 valuation, evidence of which was given by Mr. W. S. Bemis, the annual and accrued depreciation were used, but I did not adopt that method in getting the cost plus land at present value, which is a little under \$10,000,000, nor in making the appraisal of 1917 plus additions. In those two instances I deducted for depreciation only what Mr. Carter had deducted and the accumulations in the reserve.

If there is not to be included in the valuation any items to meet a value that does not exist or any items to meet the retirements for the last seven years, the retirements being, according to Mr. Metcalf's exhibit, \$103,700 in seven years, which I believe was not fair to the company, it is fairer to take the full annual depreciation and the full accrued. It does not make any difference to the public which method you take. You may even take the sinking fund.

As to going value, I treated it as the equivalent of the overheads actually required and spent in making a live property out of the dead [fol. 203] units. Those overhead charges I think, are a measure of the going value in any public utility.

I have prepared a study which involves facts dealing with the question of rate of return in water cases of this character.

Defendant's Exhibit 62 gives the flotation of public utility securities. It is divided into two chapters. The first goes back to 1903 and gives the yield to the investor on bond issues in all public utilities, as presented in the last issue of Moody's Rate Book Service. The second part, beginning in the middle of the second page, gives my study of the flotation of all public utility bonds, and the yield to the investor of those bonds, as developed by careful analysis of 524 issues. From the month of February, 1924, I obtained an average

of 6.11%. The significant thing is that there has been a decline in the last three months in the rate of return to the investor, as is shown in Moody's rate investigations. Both his computation and mine show a marked decline in yield to the investor, and hence in the cost to the company of securing money.

Exhibit 62 has no effect on the question of reproduction cost new. It has effect only on rate of return. If bonds, which are a large portion of the funds upon which property is built, are costing less than they were a few months ago, that affects the requirement of the rate of return.

[fol. 204] There is another matter in this connection, and that is where the amount of land held by the utility is much greater than is usually held by such utilities, and such an enormous amount of it that is rising in value (while under the ruling of the court here, it could not be excluded), the rate of return should be less on land so rising in value.

As to the practicability of continuing well-digging, I would need to know more about the hardness of the water than I do. I am informed that the water is harder in wells than in White River and, while the coolness of the well water is an advantage in summer, the hardness is a disadvantage in boiler and industrial use. I should want to know about that. While it is practical to continue the use of the wells, it would be much more profitable to develop the other line and save this large investment in the land, especially if the water is materially harder.

[fol. 205] Cross-examination.

Questions by Mr. McInerny:

Defendant's Exhibit 61 includes farm products and contains some 400 items, many of which are not of a character that would enter into water works construction. I am not sure exactly what commodities are included in Exhibit 61A, but it does not include agricultural products. I studied the iron and steel curve, and that has the same tendency as shown in the Iron and Steel Review.

I don't say that the decline in water works construction would be the same as is shown in the curve, but there would be a decline.

In defendant's Exhibit 62, which shows a return to the investor on bond flotations, I add an item of expense for brokerage, which will be about 4/10 of 1%. My knowledge of the Indianapolis Water Company's flotations is that it does a little better than this.

Redirect examination.

Questions by Mr. McTurnan:

Iron and steel quotations are involved in the reproduction cost. They fall in the same way as shown by the range of prices.

[fol. 206] Recross-examination.

Questions by Mr. McInerny:

They fall in the same way with farm products and general commodities. They have practically the same amount of fall, January to April. The curves of the Iron Trade Review show the same fall since January 1 that these others show. I do not mean to say by that that the index figure would be the same, but the degree of fall in iron and steel has been the same in the last few months.

CARLETON E. DAVIS, a witness called on behalf of defendant, City of Indianapolis, being first duly sworn, testified as follows:

Direct examination.

Questions by Clair McTurnan, Esq.:

I live in Indianapolis. I am Manager of the Indianapolis Water Company and have been since June, 1923. I was not connected with the water company before that time. I know what occurs in the nature of general correspondence indicating the general policy of the water company and in respect to policies relating to its management. I know that in December, 1923, public statements and letters were sent out by the company in relation to its policy with the public. This was some time after the rate order now in controversy was entered and before this suit was begun. The communication was a postal card sent out by the Indianapolis Water Company to its sub-[fol. 207] scribers, or a large number of them. Defendant's Exhibit 63 is the postcard sent out by the company at the time previously referred to. The postcards were sent to a large number of flat rate customers. As I remember, they were sent out about December 1, 1923. The order had not yet gone into effect, and the postcard was sent shortly after the issuance of the order by the commission. It was sent to approximately 40,000 or 45,000 flat rate users. The 5,000 flat rate users to whom it was not sent were those who were under the \$9.00 minimum prescribed by the commission in the new rates.

The company is proceeding now with a program of meterization as to all new customers coming under the qualifications of a modern dwelling. Up to the present time that is all that has been done, but it is not all that is intended to be done.

The Court: Now, on the matter of argument, I will allow counsel to decide in their own way the course and extent of the argument. I think I have indicated on some of the minor features of the case that, unless counsel feel that the suggestions which I made ought to be overcome, I will be disposed to adhere to my views rather informally expressed at the trial.

In the matter of the value of the city office and the part of the land, the land where the wells are, is to play in this hearing I am quite well satisfied as I indicated, that the court can not exclude those

[fol. 208] lands, and the consideration on argument should be directed to the question of valuing them.

Now, upon the other phases of the case:

You gentlemen realize, as I think you do, the wide difference between the two sides of the case upon the ultimate question of valuation; the wide difference obtaining on what the starting point will be and what will be accepted from the examination of the testimony. It is rather remarkable that between the two different methods, those dealing with historical cost and those with reproduction cost, that neither side has adhered strictly to any one method of valuation, and I feel that the problem confronting the court is in dealing with the testimony to see if there is any approach to reconciliation.

We have here the testimony on the one side as well as upon the other that deals with reproduction cost, not strictly, not spot, but over a period of time, and rather widely variant conclusions reached.

I was impressed in receiving the testimony of Mr. Bemis, the last witness, the elder Mr. Bemis, that much of his testimony, if receivable at all, was pertinent solely to proving the unreliability of reproduction cost testimony. Yet if the reproduction cost is estimated over a particular ten years, on the proof in this case there is a wide variance between the witnesses, which presents to the court a serious problem as to how it will deal with much of the reproduction cost [fols. 209 & 210] testimony.

It is an indication to all counsel on what I feel is the legitimate argument in this case, and a great deal of the field is the mere matter of dealing with some of the testimony here; what ought to be accepted and what ought to be rejected, to the end that the conclusion on this question of value and necessarily the question of adequacy of return may be reached.

I do not want to place any limitations on counsel. I am giving you my offhand feelings upon the testimony which is here in some considerable detail. I think it was agreed that we hear the argument on May 7.

[fol. 210a]

COMPLAINANT'S EXHIBIT No. 1

Hagenah & Erickson,

First National Bank Building,

Chicago

April the Nineteenth, 1924.

Indianapolis Water Company, Indianapolis, Indiana.

DEAR SIR: Under date of December 15, 1922, we submitted to you our report setting forth a detailed inventory and appraisal of all your property, the inventory having been made as of April 30, 1922, and the unit costs applied thereto reflecting the average level of labor and material prices which prevailed during the five year period ended December 31, 1922.

The inventory in question was originally prepared by your company and submitted to us in great detail for each class of property.

It was checked and verified by engineers from the Indiana Public Service Commission and from this office, and the final results were tabulated and summarized. As a result of such joint field check and examination, the inventory quantities contained in that report constituted a substantially agreed record of the property as of that date.

Under date of December 12, 1922, we also submitted to you, although in more condensed form, two additional appraisal reports based on the above inventory, the first of such appraisals reflecting the average level of labor and material prices which prevailed during the ten year period ended December 31, 1920, while the basis of the second appraisal of such date was the level of labor and material prices which prevailed as of October 1, 1922.

[fol. 210b] Pursuant to your instructions under date of January 4, 1924, we have made another appraisal of the property of your company and respectfully submit herewith our report. As the basis of this appraisal we accepted the inventory as of April 30, 1922, but have made the necessary adjustments to reflect all the additions to property and the withdrawals from service which were made during the period between April 30, 1922, and December 31, 1923, with the result that the inventory incorporated in this report is correct as of the latter date. In making such adjustments the property was again visited, the specific additions being noted and the withdrawals of property, as set forth in the company's construction records, verified. In connection with this recent appraisal, we have been supplied with a new valuation of the various parcels of land owned by your company, such appraisal reflecting the fair market value of each such parcel as of December 31, 1923. The land valuation in question was made by Indianapolis real estate brokers selected by your officials, and the conclusions have been accepted and incorporated in this report without change.

Based on such inventory as corrected to December 31, 1923, we have made a detailed appraisal of your property, the unit costs adopted for this purpose being designed to reflect the average level of labor and material prices which prevailed during the three year period ended December 31, 1923. In this appraisal we used the same relative allowance for overhead charges and adopted without change the estimates contained in our earlier reports covering the items of working capital, water rights, and going concern value. We also show in the details of this report the same per cent condition for the various items of property as were determined by us in connection with our study of the inventory items made as of April 30, 1922. Because of the expenditures which have been incurred in maintaining the [fol. 210c] property, and the plant additions, as well as the withdrawals, during the twenty months period subsequent to such inspection, it is our opinion that the per cent condition of the property as a whole was substantially the same on December 31, 1923, as it was on April 30, 1922. To reflect such depreciation we have, for the purpose of this report, reduced the so-called "present value" of the property by the amount necessary to maintain the above per cent condition, the amount in question being set forth in the summary below.

As a result of the above adjusted inventory and on the level of labor and material prices herein set forth, it is our opinion, and we do hereby certify, that the fair reproduction cost new of the property of the Indianapolis Water Company, of Indianapolis, Indiana, as of December 31, 1923, was \$25,417,204, and that the so-called "present value," or the reproduction cost new less the existing depreciation, was \$24,360,358. The conclusions covering the major property subdivisions may be summarized as follows:

Land	\$3,014,627	\$3,014,627
Buildings, Fixtures and Grounds.....	2,011,164	1,916,336
Pumping Station Equipment.....	1,401,417	1,139,296
Collecting Aqueducts, Intakes and Supply Mains	2,721,534	2,642,940
Purification System	980,655	945,298
Distribution System:		
Mains	8,328,180	8,022,817
Services	206,824	199,378
Hydrants	546,811	521,874
Fire Cisterns	1,305	1,044
Meters	210,753	191,785
Furniture and Fixtures	36,886	32,433
Utility Equipment	30,262	24,210
Shop Equipment and Tools.....	33,036	28,172
Distribution Tools	44,834	38,109
Laboratory Equipment	14,760	13,284
Miscellaneous Equipment	6,926	5,541
Non-operating Property	133,682	111,242
<hr/>		
Total Specific Construction Cost...	19,723,656	18,848,386
[fol. 210d] Depreciation from May 1, 1922, to December 31, 1923.....		43,727
<hr/>		
Net Specific Construction.....	\$19,723,656	18,804,659
<hr/>		
Overhead Allowances, 15%	2,958,548	2,820,699
<hr/>		
Total Physical Property.....	22,682,204	21,625,358
<hr/>		
Working Capital	235,000	235,000
Water Rights	500,000	500,000
Going Concern Value	2,000,000	2,000,000
<hr/>		
Total Property	25,417,204	24,360,358

The details of the inventory and appraisal, showing the physical property in classified form and the unit costs applied to the property items, and also the per cent condition of each such item of plant as noted April 30, 1922, are contained in an appendix, which accompanies and constitutes a part of this report.

Respectfully submitted, Hagenah & Erickson. Wm. J. Hagenah.

[fol. 211]

COMPLAINANT'S EXHIBIT No. 1

Haganah's Summary Appraisal on Average Labor and Material Prices for Three-year Period Ended Dec. 31, 1923

Land	\$3,014,627	\$3,014,627
Buildings, fixtures and grounds	2,011,164	1,916,336
Pumping station equipment	1,401,417	1,139,996
Collecting aqueducts, intakes and supply mains	2,721,534	2,642,940
Purification system	980,655	945,298

Distribution system:

Mains	8,328,180	8,022,817
Services	206,824	199,378
Hydrants	546,811	521,874
Fire cisterns	1,305	1,044
Meters	210,753	191,785
Furniture and Fixtures	36,886	32,433
Utility equipment	30,262	24,210
Shop equipment and tools	33,036	28,172
Distribution tools	44,834	38,109
Laboratory equipment	14,760	13,281
Miscellaneous equipment	6,926	5,541
Non-operating property	133,682	111,242

Total specific construction cost	19,723,656	18,848,386
Depreciation from May 1, 1922, to Dec. 31, 1923.	43,727

Net specific construction	19,723,656	18,894,659
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Overhead allowances, 15%.....	2,958,548	2,820,699
Total physical property.....	22,682,204	21,625,358
Working capital.....	235,000	235,000
Water rights.....	500,000	500,000
Going concern value.....	2,000,000	2,000,000
Total property.....	25,417,204	24,360,358

Following the foregoing this Exhibit contains 395 pages of details and data, which for the sake of brevity are (except as to the details concerning the canal) omitted from this transcript.

[fol. 212] Non-operating Property Included in Summary Above

Buildings, fixtures and grounds:

Fall Creek dam.....	\$33,851	\$33,174
Fall Creek mill.....	31,857	27,087

Washington Station:

Warehouse Number 1.....	33,371	25,028
Warehouse Number 2.....	28,021	21,016
Annex to Warehouse Number 2.....	2,220	1,665
Mill equipment—Fall Creek mill.....	4,362	3,272
Total.....	133,682	111,242

Collecting Aqueducts, Intakes, and Supply Mains

[fol. 213]

Canal

Canal:	Classification	Unit	Quantity	Unit cost	Total	Total cost
	Clearing and grubbing.....	Acre	35	\$156.00	\$5,460	
	Excavation and adjacent embankment.....	Cu. yd.	283,069	.67	189,656	
	Excavation & embankment 500 foot haul.....	"	4,115	.67	2,757	
	Excavation & embankment 1,000 foot haul..	"	19,087	.69	13,170	
	Excavation & embankment 7,500 foot haul..	"	111,261	1.47	163,554	
	Excavation and waste 500 foot haul.....	"	53,604	.40	21,442	
	Excavation and waste 2,640 foot haul.....	"	237,010	.73	173,017	
	Excavation and waste 7,920 foot haul.....	"	232,269	1.22	283,369	
	Excavation for puddle fill.....	"	72,778	.38	27,656	
	Material for puddle fill.....	"	72,778	.92	66,956	
	Stripping for embankments.....	"	56,820	.92	52,274	
	Replacing for embankments.....	"	56,820	.38	21,592	
	Rip-rap	"	3,785	5.60	21,196	
	Trees	"	10,000	3.00	30,000	
	Total					\$1,072,008

Broad Ripple dam:

Excavation	Cu. yd.	4,500	2.20	9,900
Cofferdams	Lin. ft.	350	2.60	910
Sheathing for abutments	Ft. b. m.	52,000	71.30 M	3,708
Rubble masonry	Cu. yd.	737	17.65	13,008

Concrete	0.17, 2	14, 85	9, 105
Reinforcing steel	40	4, 70	188
Forms	5, 375	70, 10 M	377
Boulder fill	2, 746	8, 40	23, 066
Rough logs	1, 842	4, 80	8, 842
Oak timbers	216, 750	165, 00 M	35, 764
Yellow pine lumber	2, 400	83, 50 "	200
Steel plates and bolts	134, 5	5, 65	760
Brush, clay and boulders	2, 800	1, 90	5, 320
Total	.....	.....	111, 208

Broad Ripple levees:

Embankment	54, 673	.92	50, 299
Rip-rap	1, 872	5, 60	10, 483
Driven piling	1, 360	.65	884
Oak boarding	5, 500	120, 00 M	660
Total	.....	.....	62, 326

Broad Ripple retaining wall:

Excavation	300	3, 20	960
Concrete	111, 5	14, 85	1, 656
Reinforcing steel	20	4, 50	90
Total	.....	.....	2, 703
Carried forward	.....	.....	81, 249, 338

[fol. 214] Collecting Aqueducts, Intakes, and Supply Mains—Continued

Classification	Canal			Total cost
	Unit	Quantity	Unit cost	
Brought forward.....	.....	.....	.....	\$1,248,338
Canal head gates and forebay:				
Excavation including sheathing.....	Cu. yd.....	8,530	\$3.70	\$31,561
Earth fill.....	"	406	.92	374
Gravel roadway.....	"	57	1.90	108
Concrete.....	"	984.3	15.85	15,601
Gates—cypress.....	Ft. b. m.....	2,330	209.70 M	489
Gates—yellow pine.....	"	757	85.50 "	64
Pavement—oak.....	"	14,442	165.00 "	2,383
Structural steel & iron.....	Cwt.	102.8	5.20	535
Total .....	.....	.....	.....	51,115
Retaining wall below head gates:				
Excavation—wet	Cu. yd.....	60	3.70	222
Sheathing and shoring.....	Lin. ft.....	25	2.60	91
Concrete	Cu. yd.....	44.5	14.85	661
Total .....	.....	.....	.....	974
Canal roughing rack:				
Excavation—wet	Cu. yd.....	298	2.25	670
Lumber—pine	Ft. b. m.....	2,280	85.50 M	195

Steel lattice.....				5.1
Pipe railing.....				145
Pipe and fittings.....				216
Total				1,277
Canal retaining walls:				
Boulder concrete.....	Cu. yd.....	20	14.00	280
Coursed rubble masonry.....	"	260	15.00	3,900
Total				4,180
Concrete aqueduct:				
Excavation—dry	Cu. yd.....	1,833	.92	1,686
Excavation—wet	"	3,007	2.25	6,766
Cofferdam	Ft. b. m.....	148,000	84.70 M	12,536
Concrete	Cu. yd.....	4,514	11.00	49,654
Forms	Ft. b. m.....	298,000	68.40 M	20,383
Reinforcing steel.....	Cwt.	174.2	4.25	740
Expansion joints—lead.....	"	80.6	11.75	947
Waterproofing	Square	119.6	5.60	670
Structural steel.....	Cwt.	1,045	5.10	5,330
Iron grating.....	"	43.2	14.00	605
Pipe railing.....				2,926
Rip-rap—large	Cu. yd.....	1,294	9.00	11,646
Rip-rap—small	"	192	5.60	1,075
Pipe and fittings.....				932
Total				115,896

Collecting Aqueducts, Intakes, and Supply Mains—Continued

Classification	Unit	Quantity	Unit cost	Total	Total cost
Fifteenth Street bridge:					
Excavation	Cu. yd.....	114	3.70	422	
Reinforced concrete.....	"	19	21.00	399	
Masonry	"	62.2	16.20	1,008	
Carried forward.....					\$1,421,780
Brought forward.....					\$1,421,780
[fol. 215]					
Fifteenth Street bridge (cont'd):					
Structural steel.....	Cwt.....	597.5	5.70	3,406	
Lumber—oak	Ft. b. m.....	8,400	165.00 M	1,386	
Hand railing.....				249	
Total					6,870
St. Clair Street bridge:					
Excavation	Cu. yd.....	194	3.70	718	
Concrete	"	190	10.50	1,995	
Forms	Ft. b. m.....	16,260	64.90 M	1,055	
Expanded metal.....	Square	14	4.50	63	
Reinforcing steel.....	Cwt.....	95.1	4.40	418	
Structural steel.....	"	735	5.70	4,190	
Total					8,439

North street bridge.

Excavation	Cu. yd.	220	3.70	814
Concrete		284	10.50	2,982
Forms	Ft. b. m.	11,000	64.90 M	714
Reinforcing steel	Cwt.	138.7	4.40	610
Structural steel	"	1,031.7	5.70	5,881
Asphalt paving	Sq. yd.	226	2.75	622
Total				11,623

West Street bridge:

Excavation	Cu. yd.	468	2.25	1,053
Sheathing	Ft. b. m.	19,269	71.30 M	1,374
Concrete	Cu. yd.	461.4	10.50	4,845
Forms	Ft. b. m.	30,000	64.90 M	1,947
Reinforcing steel	Cu. yd.	316.3	4.40	1,392
Structural steel	"	424.7	5.70	2,421
Asphalt paving	Sq. yd.	177	2.75	487
Brick paving	"	106	3.20	339
Total				13,858

Vermont Street bridge:

Excavation including sheathing	Cu. yd.	472	3.70	1,746
Excavation—rock	"	100	4.50	450
Hauling	"	572	.95	543
Concrete	"	550	16.75	9,212
Reinforcing steel	Cwt.	321.6	4.40	1,415
Concrete sidewalk	Sq. ft.	83	.40	33
Asphalt paving	Sq. yd.	527	2.75	1,449
Total				14,848

[fol. 216] Collecting Aqueducts, Intakes, and Supply Mains—Continued

Canal

Classification	Unit	Quantity	Unit cost	Total	Total cost
New York Street bridge:					
Excavation	Cu. yd.	922	2.25	2,074	
Sheathing	Ft. b. m.	2,200	71.30 M	157	
Concrete	Cu. yd.	420	10.50	4,410	
Forms	Cu. yd.	27,000	64.90 M	1,752	
Reinforcing steel	Ft. b. m.	340.7	4.40	1,499	
Carried forward	Cwt.				\$1,477,418
Brought forward					\$1,477,418
New York St. Bridge (con't):					
Asphalt paving	Sq. yd.	591	2.75	\$1,625	
Total					<u>11,517</u>
Ohio Street bridge:					
Excavation—dry	Cu. yd.	600	1.10	660	
Excavation—wet	"	225	3.70	832	
Excavation—rock	"	142	4.50	639	
Hauling	"	742	.95	705	
Concrete	"	517	16.75	8,660	
Sidewalks and balustrades	"	50	18.25	912	

Reinforcing steel.....	Cwt.	290	4.40	1,276
Asphalt paving.....	Sq. yd.	560	2.75	1,540
Total				15,224
Canal forebay west of Blackford Street:				
Excavation	Cu. yd.	4,129	2.25	9,290
Concrete walls.....	"	592	16.70	9,886
Concrete paving—4".....	Sq. ft.	1,635	.26	425
Lumber—cypress	Ft. b. m.	460	209.70 M	96
Lumber—yellow pine.....	"	3,684	83.50	308
Two manhole frames and covers.....	Lb.	330	12	40
Structural steel & iron.....	Cwt.	239.5	5.70	1,365
Trash box.....				50
Shelter house.....				62
Total				21,522

Steel flume—concrete covered:				
Excavation and backfill.....	Cu. yd.	7,529	1.45	10,917
Sheathing and shoring.....	Lin. ft.	530	2.10	1,113
Concrete apron and standpipe.....	Cu. yd.	19.6	16.60	325
Concrete retaining wall.....	"	125	17.50	2,188
Concrete under tracks.....	"	66	18.50	1,221
Concrete pipe supports.....	"	8.4	15.65	131
Reinforced concrete cover.....	"	762.4	27.85	21,233
Rubble masonry wall.....	"	55	16.20	891
Steel flume—painted.....	Cwt.	3,347.5	7.90	26,445
Steel supports.....	"	66.7	5.70	380

Collecting Aqueducts, Intakes, and Supply Mains—Continued

[vol. 217]

Classification	Canal Unit	Quantity	Unit cost	Total	Total cost
Steel flume—concrete covered:					
Timber supports.....	Ft. b. m.....	31,680	83.50 M	2,645	
Caisson supports.....	".....	6	90.00	540	
Intake rack.....	".....	.....	.....	2,080	
Total .....	.....	.....	.....	.....	70,109
Canal wasteway:					
Excavation and backfill.....	Cu. yd.....	10,417	1.45	15,105	
Reinforced concrete—flume.....	".....	868.9	21.00	18,247	
Brick	".....	33,200	45.00 M	1,494	
Total .....	.....	.....	.....	.....	34,846
Carried forward.....	.....	.....	.....	.....	\$1,630,636
Brought forward.....	.....	.....	.....	.....	\$1,630,636
Tail race:					
Dry excavation & backfill.....	Cu. yd.....	6,672	\$1.45	\$9,674	
Wet excavation including sheathing.....	".....	1,446	3.70	5,350	
Dredging	".....	313	2.25	704	
Steel sheet piling.....	Sq. ft.....	2,500	1.25	3,125	
Rip-rap—in cement.....	Cu. yd.....	83	16.20	1,345	
Reinforced concrete—sluiceway.....	".....	860.6	24.25	20,870	
Party wall—Company's proportion, 50%.....	".....	105.4	18.85	1,987	
Total .....	.....	.....	.....	.....	43,055

[fol. 218]

Comparison of Appraisal Results on V

Classification	Three-year period ended December 31, 1923		Five- ended De
	Reproduction cost new	Present value	Reproductio cost new
Land	\$3,014,627	\$3,014,627	\$3,014,627
Buildings, fixtures and grounds	2,011,164	1,916,336	1,994,630
Pumping station equipment	1,401,417	1,139,296	1,416,033
Collecting aqueducts, intakes and supply mains	2,721,534	2,642,940	2,809,592
Purification system	980,655	945,298	1,019,320
Distribution system:			
Mains	8,328,180	8,022,817	9,077,710
Services	206,824	199,378	227,500
Hydrants	546,811	521,874	579,620
Fire cisterns	1,305	1,044	1,380
Meters	210,753	191,785	205,480
Furniture and fixtures	36,886	32,433	42,050
Utility equipment	30,262	24,210	35,700
Shop equipment and tools	33,036	28,172	34,350
Distribution tools	44,834	38,109	46,620
Laboratory equipment	14,760	13,284	15,350
Miscellaneous equipment	6,926	5,541	7,200
Non-operating property	133,682	111,242	141,860
Total specific construction cost ..	\$19,723,656	\$18,848,386	\$20,669,080
Overhead allowances, 15%	2,958,548	2,827,258	3,100,360
Total	\$22,682,204	\$21,675,644	\$23,769,440
Depreciation from May 1, 1922, to December 31, 1923		50,286*	
Total physical property	\$22,682,204	\$21,625,358	\$23,769,440
Working capital	235,000	235,000	235,000
Water rights	500,000	500,000	500,000
Going concern value	2,000,000	2,000,000	2,000,000
Total Property	\$25,417,204	\$24,360,358	\$26,504,440

[fol. 218]

COMPLAINANT'S EXHIBIT No. 2

Comparison of Appraisal Results on Various Price Levels (Hagenah)

Classification	Three-year period ended December 31, 1923		Five-year period ended December 31, 1923		Ten-year period ended December 31, 1923		As of December 31, 1923	
	Reproduction cost new	Present value	Reproduction cost new	Present value	Reproduction cost new	Present value	Reproduction cost new	Present value
Land	\$3,014,627	\$3,014,627	\$3,014,627	\$3,014,627	\$3,014,627	\$3,014,627	\$3,014,627	\$3,014,627
Buildings, fixtures and grounds	2,011,164	1,916,336	1,994,636	1,898,893	1,595,708	1,519,114	2,012,769	1,916,156
Pumping station equipment	1,401,417	1,139,296	1,416,033	1,146,987	1,337,043	1,083,005	1,455,668	1,179,091
Collecting aqueducts, intakes and supply mains	2,721,531	2,642,940	2,809,592	2,725,304	2,247,673	2,180,243	2,829,011	2,744,141
Purification system	980,655	945,298	1,019,326	981,611	815,461	785,289	1,028,593	990,535
Distribution system:								
Mains	8,328,180	8,022,817	9,077,716	8,741,840	7,745,207	7,458,634	9,077,716	8,741,840
Services	206,824	199,378	227,506	220,681	196,483	190,588	217,165	210,650
Hydrants	546,811	521,874	579,620	553,537	475,726	454,318	535,875	511,761
Fire cisterns	1,305	1,044	1,383	1,103	1,135	908	1,279	1,023
Meters	210,753	191,785	205,484	186,990	184,409	167,812	210,753	186,990
Furniture and fixtures	36,886	32,433	42,050	37,004	26,558	23,371	33,566	29,538
Utility equipment	30,262	24,210	35,709	28,567	33,288	26,630	28,749	22,999
Shop equipment and tools	33,036	28,172	34,358	29,204	31,715	26,958	31,384	26,676
Distribution tools	44,834	38,109	46,627	39,633	43,041	36,585	42,592	36,203
Laboratory equipment	14,760	13,284	15,350	13,815	14,170	12,753	14,022	12,620
Miscellaneous equipment	6,926	5,541	7,203	5,762	6,649	5,319	6,580	5,264
Non-operating property	133,682	111,242	141,861	118,170	113,489	94,536	143,664	119,672
Total specific construction cost..	\$19,723,656	\$18,848,386	\$20,669,081	\$19,743,731	\$17,882,382	\$17,080,690	\$20,684,013	\$19,749,786
Overhead allowances, 15%	2,958,548	2,827,258	3,100,362	2,961,560	2,682,357	2,562,104	3,102,602	2,962,468
Total	\$22,682,204	\$21,675,644	\$23,769,443	\$22,705,291	\$20,564,739	\$19,642,794	\$23,786,615	\$22,712,254
Depreciation from May 1, 1922, to December 31, 1923		50,286*		52,492*		18,440*		43,228*
Total physical property	\$22,682,204	\$21,625,358	\$23,769,443	\$22,652,799	\$20,564,739	\$19,624,354	\$23,786,615	\$22,669,026
Working capital	235,000	235,000	235,000	235,000	235,000	235,000	235,000	235,000
Water rights	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
Going concern value	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Total Property	\$25,417,204	\$24,360,358	\$26,504,443	\$25,387,799	\$23,299,739	\$22,359,354	\$26,521,615	\$25,404,026

[*Red in copy.]

COPY BOUND CLOSE IN CENTER

Ord. 8-11-02	Cu. yds.	1,020	95	909
Excavation	150.8	16.65	2,511
Concrete walls	71	11.95	848
Concrete floor			
Total			4,328
Culverts and drains:				
Illinois St.—30" cast iron pipe			2,950
Fairview Park—wood box culvert and 20" cast iron pipe			3,886
East of Michigan Road—24" cast iron pipe			1,222
West of Michigan Road—12" cast iron pipe			539
Fresh Air Mission drain—8" cast iron pipe			352
Golden Hill drain—8" cast iron pipe			352
West of Illinois Street—12" cast iron pipe			265
Total			9,566
Miscellaneous buildings:				
Tool house at Broad Ripple			818
Tool house at Michigan Road			115
Tool house at aqueduct			261
Boat house at filtration plant			833
Total			2,027
"No Trespassing" signs			496
Total Material and Labor	31	16.00	1,690,108
Contractor's Profit			253,516
Total Cost (Specific Construction)			\$1,943,624
Per cent condition—97			

(Here follows Complainant's Exhibit No. 2, marked side folio page 218)

Cost of Property, Including Land Appreciation, Working Capital and Development Cost (Hagenah)
 Property and Plant Account as per Books, December 31, 1923..... \$13,222,285

Deduct Adjustments:

Overhead Expenses charged to property and plant..... \$878,335
 Reduction in Book Value account of reorganization (1881)..... 758,779*
 Increase in Book Value account of Appraisal (1909)..... 3,582,285
 Increase in Book Value of Buildings (1877)..... 50,000
 Increase in Book Value account of Going Value Addition (1910).. 1,004,00
 Increase in Book Value of Real Estate (1910)..... 47,500
 Increase in Book Value account of Paving over Mains (1913).... 199,668
 Decrease in Book Value Account of Adjustment (1917)..... 486,458*
 Decrease in Book Value account of Depreciation Reserve (1917).. 459,723*

Total 4,056,824

Specific Construction Cost..... \$9,165,461
 Add Proper Overhead Charges during Construction @ 15%..... 1,374,819

Add Appreciation in Land:

Appraisal as of December 31, 1923..... 3,014,627
 Book Cost of Land..... 818,079
 Appreciation 2,196,548

Total Physical Property 12,736,828
 Add Working Capital Requirement..... 255,000
 Add Development Cost on 7.5% Basis of Return..... 4,222,328

Total Cost of Property and Plant..... 17,194,158

(Here follows Complainant's Exhibit No. 4, marked side folio pages 220 and 221.)

	(15)	(16)	(17)	(18)
	Requirement for depreciation at 8/10%	Adjusted net income after allowing for depreciation (11) + (12) + (13) + (14) + (15)	Requirement for return at 7.5% on total investment	Surplus or deficit on 7.5% basis of return (16) — (17)
erty year - (5)	\$3,093*	\$7,532*	\$29,555	\$37,087*
260	6,995*	5,641*	67,868	73,509*
108	7,981*	22,180	79,339	57,159*
178	7,991*	19,568	81,509	61,941*
86	8,421*	24,702	87,591	62,889*
94				
	10,177*	34,582	106,218	71,636*
34	11,504*	52,128	120,796	68,668*
102	12,013*	51,440	127,480	76,040*
117	12,405*	41,549	133,210	91,661*
119	12,584*	45,845	137,024	91,179*
96				

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[fol. 222]

COMPLAINANT'S EXHIBIT 5 (ELMES)

Summary of Appraisal on Average Level of Labor and Material
Prices for Three-year Period 1921-1923

	Reproduction cost new, 3-year average, 1921-1923
Land	\$3,014,627
Buildings, Fixtures and Grounds	1,845,804
Pumping Station Equipment	1,340,557
Collecting Aqueducts, Intakes and Supply Mains.....	2,393,718
Purification System	860,863
Distribution System	8,904,624
Furniture and Fixtures	29,675
Utility Equipment	33,452
Shop Equipment and Tools	26,090
Distribution Tools	39,807
Laboratory Equipment	14,266
Miscellaneous Equipment	14,381
Non-Operating Property	100,546

Material and Labor	\$18,618,410
Additional Structural Costs—15%.....	2,792,761

Total—Fixed Physical Property \$21,411,171

No allowance has been included in the above for Materials and Supplies or Cash Working Capital.

No allowance has been included for Going Concern Value or Water Rights.

No allowance has been included for Development or Promotional Expenses, or the Legal, Engineering and Administrative expenditures incurred preliminary to construction, Costs of Financing, including Bankers' and Brokers' Remuneration, Market- Securities and Bond Discount.

Following the foregoing this exhibit contains 150 pages of details and data which for the sake of brevity are (except as to the details concerning the canal) omitted from this transcript.

[fol. 223] Collecting Aqueducts, Intakes and Supply Mains

Canal

Canal Excavation and Embankment:

The canal extends from a point on the west bank of White River, at Broad Ripple, through Indianapolis, to the flume headgates at Blackford Street, a distance of 8.47 miles. It has a total fall of 2.86 feet.

	Reproduction cost new, 3-year average, 1921-1923
Local Rolled Embankments	\$217,091
Distant Rolled Embankment	124,292
Local Embankment Backing	110,312

Reproduction
cost new,
3-year average,
1921-1923

Canal Excavation and Embankment:

Distant Embankment Backing	310,123
Distant Spoil Banks	14,679
Stripping Organic Matter	74,434
Puddling	95,339
Clearing and Grubbing	24,373
Rip Rap	26,495
Trees	17,500
Total	\$1,044,633

Broad Ripple Dam:

Timber crib work dam, 310' long, 20' wide from 11 to 20 ft. deep; a brush, clay and boulder apron protection the length of the dam, and from 80 to 90 ft. wide. A concrete underdeck the length of dam.

Excavation, Coffers dams and sheathing	\$11,733
Rubble masonry	8,402
Concrete	12,054
Boulder fill	21,556
Rough logs	8,289
Oak timbers	29,525
Yellow pine timbers	164
Steel plates and bolts	1,412
Brush, clay and boulders	5,600
Total	\$101,737

[fol. 224] Broad Ripple Levees:

Earthwork levees, consisting of: The Boardman levees, 6,944' long 5' wide at top, 9' average height with 2:1 slopes with 500 lin. ft. pile and timber protecting wall; the Bruener levee, 955' long, 5' wide at top, 2:1 slopes, average height 7' 4"; headgate levee 300' long 5' wide at top, 2:1 slopes, 6' 4" high; the Ferguson levee, 369 ft. long, 12 ft. wide at top, 1:1½ slopes, 6' average height.

Embankment	\$47,644.00
Rip Rap	13,104.00
Driven Piling	2,040.00
Oak Boarding	644.00
Total	\$63,432.00

Reproduction
cost new,
3 year average,
1921-1923

Canal Headgates and Forebay:

Concrete structure consisting of 6 arched sluiceways, each 5'-0" wide, 5'-0" high and 30'-4" long, 6" rise to soffit of arch, and 2 concrete retaining walls 43'-0" long, 11'-6" high and 2'-6" average thickness and 2 concrete retaining walls 60'-0" long, 20'-0" high and 4'-0" average thickness; 6 sluice gates, each 5' 6" x 5'-6", built up of 2 layers of 3" cypress with stems and pinion operating devices; steel *rach* 44'-0" x 16'-0", composed of 2" round bars, spaced 12" on centers.

Excavation and sheathing.....	\$34,802.00
Earth fill	231.00
Gravel roadway	92.00
Concrete	11,566.00
Gates	260.00
Oak pavement	1,690.00
Retaining walls, pine	560.00
Structural steel and iron	1,182.00
	<hr/>
	\$50,383.00

[fol. 225] Canal Roughing Rack:

A series of wood bars, spaced 3'-0" on centers, extending across the canal, 53'-0", set on a slope of 6 horizontal to 10 vertical, supported on the bottom by a wood sill and on top by a *goot*-bridge 4'-4" wide; 2 concrete piers; pipe railing.

Excavation	\$517
Concrete	776
Lumber	155
Steel Lattice	40
Pipe railing	192
Pipe and fittings	302
	<hr/>
	1,982

Canal Retaining Walls:

Boulder concrete, coursed stone and rubble masonry walls located at Michigan Road, at 15th St. and bet. 10th and 11th Sts.

Boulder concrete	235
Coursed rubble masonry	2,964
	<hr/>
	\$3,199

Concrete Aqueduct:

Concrete aqueduct, *n* 259'-4" long from face to face of abutments, 36'-0" wide in the clear with sides 6'-0" high; supported by 4 concrete arches, each 60 ft. long, having a 49' 6" radius, a 10'-0" rise and a thickness of 1.5' at crown, 2.7 ft. at skewback; 3 concrete piers; 2 concrete abutments with wing walls.

Excavation	\$8,004
Coffer Dam	9,916
Concrete, forms and reinfo-cing steel	78,362
Expansion joints, lead	846
Waterproofing	1,884
Structural steel and iron	5,945
Rip rap	11,753
Pipe and fittings	1,010

 \$117,720

[fol. 226] New Retaining Wall on South Bank of Canal:

Concrete wall from headgates bridge to Monon Ry. on south bank; 35' 0" long 10' 0" high, 2' 6" average width.

Excavation	\$260
Concrete	523

 \$783

Revetment Wall above Headgates:

Concrete wall, 218' 0" long and from 5' 0" high.

Earthwork	\$1,290
Concrete	1,310
Reinforcing steel	95

 \$2,704

15th Street Bridge:

Plate girder bridge with wood decking and concrete and rubble masonry abutments.

Excavation	\$247
Concrete	318
Rubble masonry	687
Structural steel	4,469
Lumber	983
Hand railing	155

 \$6,859

Reproduction
cost new,
3-year average,
1921-1923

St. Clair St. Bridge:

Steel plate girder bridge with concrete abutments
and reinforced concrete deck:

Excavation	421
Concrete and reinforcing steel	3,190
Structural steel	5,298
	<hr/>
	\$8,909

North St. Bridge:

Steel plate girder bridge with concrete abutments
reinforced concrete deck and asphalt pavement.

Excavation	\$1,065
Concrete and reinforcing steel	4,123
Structural steel	7,717
Asphalt paving	739
	<hr/>
	\$13,644

[fol. 227] West Street Bridge:

Steel plate girder bridge with concrete abutments,
reinforced concrete deck and asphalt and brick pave-
ment.

Excavation and sheathing	\$3,548
Concrete and reinforcing steel	8,360
Structural steel	3,177
Asphalt and brick paving	1,022
	<hr/>
	\$16,107

New York Street Bridge:

Reinforced concrete center pier bridge concrete
railing, asphalt paving.

Excavation, sheathing, piles and protective work . . .	\$4,609
Concrete and reinforcing steel	7,830
Asphalt pavements	1,933
	<hr/>
	\$14,372

Ohio Street Bridge:

Reinforced concrete center pier bridge, concrete
railing, asphalt paving.

Excavation and sheathing	\$4,746
Concrete and reinforcing steel	9,765
Asphalt pavement	1,831
	<hr/>
	\$16,342

Vermont Street Bridge:

Reinforced concrete center pier bridge, concrete railing, asphalt paving.

Excavation and sheathing	\$2,874
Concrete and reinforcing steel	9,479
Asphalt paving	1,723
	<hr/>
	\$14,076

[fol. 228] Canal Forebay west of Blackford Street:

Open basin 245' 0" long by 49' 0" wide at narrowest point; 4" concrete bottom for full width and for a length of 40'; concrete retaining walls from 10' 8" to 16' 0" deep, 15" thick at top, vertical on one side and with a slope of 4 horizontal and 10 vertical on the other side, extending along 2 sides and one end.

Excavation	\$19,984
Concrete	7,219
Lumber	303
Structural Steel	1,289
Manhole frames and covers, shelter house and trash box	107
	<hr/>
	\$28,902

Concrete encased steel flume:

Concrete encased $\frac{1}{4}$ " steel flume, 9' 0" inside diameter, 1,000 ft. long; 6' 0" sections $1\frac{1}{4}$ " lap, single riveted, reinforced every 10' by a 3" x 3" x $\frac{3}{8}$ " angle; 12" x 12" x 12' 0" timber supports spaced 4 ft. on centers. Excavation varies from 6 to 15 ft.

Excavation and backfill	\$16,338
Concrete and reinforcing steel	18,644
Rubble masonry	627
Steel	25,538
Timber supports	2,162
Caissons	498
Intake rack	2,123
	<hr/>
	\$65,930

Canal Wasteway:

Brick and reinforced concrete flume, leading from forebay to river. Concrete intake chamber.

Excavation and backfill	\$18,063
Concrete and reinforcing steel	17,595
Brick	1,328
	<hr/>
	\$36,986

Reproduction
cost new,
3-year average,
1921-1923

[fol. 229] Old Spillway:

Concrete flume leading from forebay.

Excavation	\$1,040
Concrete walls	1,970
Concrete floor	587
	<hr/>
	\$3,597

Tail Race:

Open stream, 215' long, from 35 to 50 ft. wide;
concrete bottom for a distance of 125'.

Excavation and dredging	\$16,836
Sheet steel piling	3,500
Concrete and rip rap	18,373
Party wall	1,238
	<hr/>
	\$39,947

Culverts and Drains:

Cast iron pipe and wood box culverts and drains
at Illinois St., Fairview Park, east of Michigan Rd.,
west of Michigan Rd., Fresh Air Mission, Golden Hill
and west of Illinois St.

Total	<hr/>
	\$7,992

Miscellaneous Buildings:

Tool house at Broad Ripple	382
Tool House at Michigan Blvd.	127
Tool House at Aqueduct	231
Boat House at Filtration Plant	894
"No Trespassing" signs	340
	<hr/>
	\$1,974

Total Canal	<hr/> <hr/>
	\$1,662,210

[fol. 230]

COMPLAINANT'S EXHIBIT 6 (ELMES)

Grand Summary Fixed Physical Property

	Reproduction cost new, 5-year average, 1919-1923
Land	\$3,014,627
Buildings, fixtures and grounds	1,815,667
Pumping station equipment	1,405,284
Collecting aqueducts, intakes and sup. mains	2,429,592
Purification system	852,794
Distribution system	9,594,915
Furniture and fixtures	31,829
Utility equipment	39,302
Shop equipment and tools	30,512
Distribution tools	46,574
Laboratory equipment	16,691
Miscellaneous equipment	16,819
Non-operating property	102,700
Material and labor	\$19,397,306
Additional structural costs—15%	2,909,596
Total fixed physical property	\$22,306,902

No allowance has been included in the above for materials and supplies or cash Working Capital.

No allowance has been included for going concern value or water rights.

No allowance has been included for development or promotional expenses, or the legal, engineering and administrative expenditures incurred preliminary to construction, costs of financing, including bankers' and brokers' remuneration, marketing securities and bond discount.

Following the foregoing this exhibit contains 7 pages of details and data, which for the sake of brevity are omitted from this transcript.

[fol. 231]

COMPLAINANT'S EXHIBIT 7 (ELMES)

Grand Summary Fixed Physical Property

	Reproduction cost new, 10-year average, 1914-1923
Land	\$3,014,627
Buildings, fixtures and grounds	1,585,430
Pumping station equipment	1,231,788
Collecting aqueducts, intakes and supply mains	2,013,314
Purification system	737,507
Distribution system	7,985,898
Furniture and fixtures	25,278
Utility Equipment	54,574
Shop equipment and tools	31,250
Distribution tools	47,370
Laboratory equipment	16,977
Miscellaneous equipment	17,225
Non-operating property	86,608
Material and labor	\$16,847,846
Additional structural costs—15%	2,527,177
Total fixed physical property	\$19,375,023

No allowance has been included in the above for materials and supplies or cash working capital.

No allowance has been included for going concern value or water rights.

No allowance has been included for development or promotional expenses, or the legal, engineering and administrative expenditures incurred preliminary to construction, costs of financing, including bankers' and brokers' remuneration, marketing securities and bond discount.

Following the foregoing this exhibit contains 7 pages of details and data, which for the sake of brevity are omitted from this transcript.

Grand Summary Fixed Physical Property

	Reproduction cost new, Dec. 31, 1923
Land	\$3,014,627
Buildings, fixtures and grounds	1,901,178
Pumping station equipment	1,363,139
Collecting aqueducts, intakes & sup. mains	2,596,932
Purification system	949,571
Distribution system	9,772,003
Furniture and fixtures	29,853
Utility equipment	31,118
Shop equipment and tools	27,655
Distribution tools	42,348
Laboratory equipment	15,122
Miscellaneous equipment	15,244
Non-operating property	103,563
Material and labor	\$19,862,353
Additional structural costs—15%	2,979,353
Total fixed physical property	\$22,841,706

No allowance has been included in the above for materials and supplies or cash working capital.

No allowance has been included for going concern value or water rights.

No allowance has been included for development or promotional expense, or the legal, engineering and administrative expenditures incurred preliminary to construction, costs of financing, including bankers' and brokers' remuneration, marketing securities and bond discount.

Following the foregoing this exhibit contains 7 pages of details and data, which for the sake of brevity are omitted from this transcript.

[fol. 233]

COMPLAINANT'S EXHIBIT 9 (ELMES)

Grand Summary Rehabilitation

Buildings, fixtures and grounds	\$69,559	
Pumping station equipment	107,563	
Collecting aqueducts, intakes and supply mains	16,088	
Purification system	44,797	
Distribution system	188,335	
Furniture and fixtures...	}	7,200
Utility equipment.....		
Shop equipment and tools		
Distribution tools.....		
Laboratory equipment...		
Miscellaneous equipment..	}	9,502
Non-operating property		
Total April 1, 1924	<hr/> \$443,044	

Following the foregoing this exhibits contains 25 pages of detail and data, which for the sake of brevity are omitted from this transcript.

COMPLAINANT'S EXHIBIT 10 (ELMES)

[fol. 234]

Summary of Valuations and Graph

	Ten- year average, 1914 to 1923	Five- year average, 1919 to 1923	Three- year average, 1921 to 1923	Spot price December 31, 1923
Total Fixed Physical Property.....	\$19,375,023	\$22,306,902	\$21,411,171	\$22,341,706
Materials and Supplies Average in 1923.....	127,939	127,939	127,939	127,939
Cash Working Capital 1/8 of 1 year's gross.....	233,306	233,306	233,306	233,306
	<hr/>	<hr/>	<hr/>	<hr/>
	\$19,736,268	\$22,68,147	\$21,772,416	\$23,202,951
Water Rights			500,000	
Going Concern Value			2,098,000	
			<hr/>	
Total			\$24,370,416	
Rehabilitation			\$443,044	

[fol. 235]

COMPLAINANT'S EXHIBIT 10

The original of this record contains a printed graph at this page.
See original record for graph.

[fol. 236]

COMPLAINANT'S EXHIBIT 11

Elmes' Study of Water Rights and Going-concern Value

Introductory

The Indianapolis Water Company has certain water rights upon which it is one of the purposes of this memorandum to place a value.

The Company's property also has a going concern value, i. e., an amount to represent its value as a seasoned and successful plant, doing business and earning money, as compared with one which has yet to develop its business. It is also the purpose of this memorandum to arrive at an estimate of going concern value.

Measure of Value of Water Rights

Public Service Commissions as a whole, while practically unanimous in recognizing the real values of water rights, have not committed themselves to any particular theory by which to measure them.

Where the feature of particular interest in such water rights is the mechanical power available in the fall or head of water, the "saving over steam" theory is the one most commonly used, i. e., the difference in the operating expense plus fixed charges between an hydraulic station, designed to utilize the head of water, and a steam station producing the same quantity of power from coal or other fuels.

Where the primary interest of the utility owning the water right is [fol. 237] water supply, the selling value of the volume of water controlled is sometimes computed where it is practicable to ascertain this and where it can be regarded as a fair measure.

Measure of Value of Going Concern

Various methods have been evolved for computing going concern value, some based upon complex theoretical considerations, some based upon rule-of-thumb methods. The most widely used theoretical methods are:

(a) The Past Deficit or Wisconsin Commission Method, wherein the utility company is awarded as Going Value a sum to reimburse it for early losses in revenue. To compute these losses, assumptions are made as to what would have been a legitimate rate of earnings in these past years; then, from the Company's books, there is ascertained how far the actual earnings fell short of this.

(b) The Corparative Plant Method, also called the Alvord-Metcalf method, in which a new property is assumed to be constructed at the present time, similar to the present one. The probable losses which may be anticipated from operation in its first years while struggling to get on its feet are allowed and considered as "Going Value."

The above methods are used in cases where technicalities of legal proof are a main consideration. With bankers and investors, neither of these methods is extensively employed. Practical and rapid estimates are commonly made as follows:

(c) By taking a percentage of the physical property valuation. The percent employed may range from zero up to any figure the circumstances justify. 30 per cent is perhaps the maximum ordinarily encountered, while 25 per cent constitutes an average high figure. 10 per cent is, perhaps, the minimum allowance in the case of any healthy property.

(d) By basing a figure on the gross earnings of the property. This method appears somewhat more logical since it reflects to the investor the soundness or otherwise of his property as an earning mechanism. Two years' gross earnings would not be an unfair figure in properties where the ratio of earnings to property is low, provided [fol. 238] the security is high. From nine months to one year's gross earnings may be reasonable where the ratio of earnings to property is high while the security is perhaps not so thorough.

(e) By a ratio computed upon the net earnings. This method appears the most logical of all since it relates directly to the profits of the enterprise. Actually it is less frequently used than (d) above, because of the prevailing financial custom of buying properties on the basis of gross rather than of net earnings. From one and one-half to three or three and one-half times the net earnings commonly gives a reasonable estimate.

Available Sources of Water Supply

These are three in number, White River, Fall Creek and deep wells, of which Fall Creek is not drawn upon, although the company has, as stated, emergency connection thereto. Shallow wells are still in use, mostly in connection with private residences of an older class. The company has none and their use could not be seriously considered.

The present minimum flow of White River in periods of low water is estimated as 67,000,000 gallons per day. The minimum flow of Fall Creek under similar conditions is estimated at 15,000,000 gallons. Under flood conditions the quantity of water in both streams becomes relatively enormous and constitutes, in occasional years, a certain degree of public menace, grave damage having been done in various past years by excessive high water. The flood discharge of White River has been estimated at 120,000 cubic feet per second, equivalent to about 78,000,000,000 gallons per day.

The wells of the company are all deep wells, averaging 325 feet each, and are carried through the limestone formation underlying Indianapolis. While the water from them is excellent as to its purity, it is harder than the river water and the latter is therefore preferred.

[fol. 239]

Probable Future Consumption

At the present time the peak load on the water system of Indianapolis is at the rate of 87,000,000 gallons per day and the maximum 24 hour use is 44,000,000 gallons. With the growth predicted for the city, even were other conditions to remain unchanged, provision would have to be made for a peak consumption at a rate exceeding 140,000,000 gallons daily by 1940, and a maximum 24 hour use of 75,000,000 gallons.

However, such a figure makes no allowance for future increase in public consumption of water. Present per capita consumption in Indianapolis is estimated to average 86½ gallons per day. It would be improvident, in estimating future requirements, to overlook the tendency of the age towards more lavish use of all conveniences, or to assume that a largely increased use of water is beyond expectation 10 or 15 years from now.

Desirable Trend of Future Development

The trend of future development of water supply for the metropolitan district of Indianapolis should comprise:

- (a) A reservoir system on White River.
- (b) Use of Fall Creek as a source of supply.
- (c) Protection of both streams from contamination in urban and non-urban areas.
- (d) Flood control measures.

Certain of these items fall properly within the scope of a privately owned water company, others are more properly the task of civic or state governing bodies. All are desirable in the interests of enlarging, maintaining and safeguarding such a water supply as is needed for Indianapolis.

[fol. 240]

Reservoir System on White River

Storage reservoirs, designed to double the present minimum flow of White River, should be installed in the next few years to meet the requirements of the future. The company's engineers estimate that such an increase can be accomplished by means of two or possibly three reservoirs. Certain dam sites are already in contemplation and the company has its half ownership in the Noblesville dam, which it is planned to raise in height to increase the storage capacity.

The Noblesville property now has rights to flood 1000 acres of

flowage lands, and the Indianapolis Water Company's interest in this water right is one of the elements to be allowed for in the present case, and constitutes a tangible asset not elsewhere allowed for. The company also has flowage rights over lands above Broad Ripple dam, and these constitute another tangible asset for which no sum is included in the physical appraisal of the property.

Impounding reservoirs will serve two other purposes in addition to the primary purpose of increasing the available minimum from the river. In the first place, they have some value for flood prevention through actual capacity to store water and the control of stream flow thus given. The possibilities of minimizing flowage conditions by means of storage reservoirs can easily be over-estimated, and this use is to be regarded as secondary. Still it is worthy of note.

The second feature is that the existence of hydraulic works in [fol. 241] number upon White River will tend to minimize the future recurrence of any such real menace to the security and well-being of the City of Indianapolis as was implied in the project of the original promoters of the Noblesville venture. It is vital to the welfare of a metropolitan district that projects conceived in disregard of the security of its main water supply be strongly discouraged, if not made utterly impossible.

Use of Fall Creek

This creek is now only utilized in an emergency, but it can be made fully available. Plaintiff has connections to it, and contemplates large expenditures for a filtration plant whereby Fall Creek water can become a part of the general Indianapolis supply, also for erecting an impounding reservoir on this stream to conserve its maximum flow for use during its minimum flow in dry weather. There is no good reason why the stream should not be made available, as it is desirable as a source for additional supply. It comes through an agricultural district, and has no large cities upon it.

Protection of Streams

The river water supply is now protected. The enlargement of Indianapolis will in time require additional provision for its protection. Such protection can be accomplished: (a) By ownership of the banks or their use for public parks; (b) By the creation of public controlled districts along the banks; (c) By the building of streets and boulevards on either side of the stream, and (d) by the elimination of special and individual cases of contamination of the water.

[fol. 242]

Flood Control Measures

Reservoirs, alone, are not the proper method to accomplish flood control. It should be accomplished by removing obstructions, straightening the banks, removing sand bars and widening and deepening the channel.

General Conclusion as to Water Rights

These rights include riparian rights and rights to divert the water of White River at Broad Ripple, and right to overflow all the necessary land upstream therefrom; and include plaintiff's half interest in, and control of, the Noblesville dam, the incidental right to overflow about 1,000 acres upstream therefrom; the Fall Creek flowage rights at Schofield Mill, estimated to cover 300 acres; riparian ownership rights on the river and Fall Creek at their junction; riparian rights by ownership of a considerable tract on White River above Broad Ripple; other riparian ownership rights on White River below Broad Ripple, including a tract running from the river to the canal; hydraulic power available from a 30-foot head in the canal, estimated at 1000 horsepower, and the right to dispose of water in the canal.

As to the company's water rights in general, it can be stated:

1. They are valuable to the present and future water supply system of Indianapolis. They are not mere relics of previous stages in the development of that system, and as such, outworn or abandoned. On the contrary they are in general live elements in the historical development from the past, live elements in the system as now operated, and they will undoubtedly be live elements in the future development of a metropolitan water supply.

[fol. 243] 2. The fair value of these rights is a property right of the Indianapolis Water Company, entitled to recognition and valuation, and not included or allowed for in the appraisal of its physical property submitted in this case.

An attempt to put a value upon the water rights of the Indianapolis Water Company, based upon an assumed purchase or recreation of these rights at market prices, could easily lead to very large figures. A new purchaser who did not possess these rights and sought to [fol. 243a] acquire them would, in fact, have to make such outlays. However, as these might here be regarded as speculative, no effort is made to value water rights upon any such considerations. Instead, consideration is limited practically to tangible property for which nothing is allowed elsewhere. These include such items as:

(a) 1,000 acres overflow rights above Noblesville on White River, not listed as an inventory item. The commission engineer put a value of \$100 per acre on this, or \$100,000.

(b) 300 acres of overflow rights above Fall Creek dam. The commission engineer put a per acre value of \$150 on this which would be equal to \$45,000. It is believed that at the present time (a) and (b) together would actually cost anywhere from \$175,000 to \$200,000.

(c) The company's right to market water in the canal to industries upon its banks. Now only slightly developed and offering great future possibilities. At the present time the company only

derives a revenue of about \$25,000 from this source. Capitalizing this at 10% would set a present day value of \$250,000 upon this right.

(d) The hydraulic power in the canal. This may be valued at anything from \$25 to \$75 per horsepower. Taking the lowest figure gives an item of \$25,000.

(e) The Fall Creek dam and mill property, which in years to come shall be a vital link in the whole water supply system. While valued at \$43,827 in Sanderson & Porter's appraisal, it is listed under non-operative property and, as such, might not be an element in a rate case. It is a wise provision for a city's future needs, a prudent and proper purchase by the company and, therefore, the above figure should be added back here as a water right.

(f) The company's ownership in the dam at Noblesville safeguards the public in its right to and use of the flow of the White River. No amount is included for this right under physical property items."

As stated above, it would be easy to expend this list and to include therein items which would appear to justify a very large allowance for water rights. However, it is not desired to do this. On the contrary, it is desired to be moderate in any such claims and, therefore, a figure of \$500,000 is set down here as a minimum value for these water rights.

[fol. 243b] General Conclusions as to Going Value

Using the valuation of physical property as a basis for computing Going Concern, it would appear that the higher ratios, such as 25% or 30%, might be held inapplicable in the case of a water supply company. The ratio of physical property values to earnings in such a case is usually high and the application of a high percentage to such property values would produce a large and perhaps unjustifiable figure. For this reason a ratio of 15% is believed reasonable and conservative in the present case. The lowest percentage commonly considered would be 10%.

Using the gross earnings as a basis is perhaps the most satisfactory practical way of establishing Going Concern Value. In the case of a water company its revenues usually bear a low ratio to physical property values, but, on the other hand, are generally regarded as having superior elements of stability, the business being basic in its nature. A ratio of one and one-half times the annual gross revenues would appear to be a reasonable and fair figure in the present case. The lowest ratio which would be commonly considered would be one year's gross revenue.

Using net earnings as a criterion, a well established water company, with its property seasoned and its methods and efficiency at their best, as in the present case, should be entitled to claim as Going Concern Value, conservatively estimated, about two years' net revenue. In any case, no ratio lower than a year and a half's net revenues as a minimum would be fairly entitled to consideration.

[fol. 243c] Summing up the foregoing, employing the fixed physical property valuation submitted in this case and based upon market prices averaged for the three-year period, 1921, 1922 and 1923, and employing also as a basis the average gross and net revenues for the same three years, the fair and reasonable Going Concern Value of the Indianapolis Water Company, as well as the minimum figure which could reasonably be set down for this Going Concern Value, is shown in the following table:

Basis of computation	Fair and reasonable going concern value	Minimum estimate of going-concern value
Physical Property Value.....	\$3,211,675	\$2,141,117
Gross Revenue	2,580,171	1,720,114
Net Revenue	1,678,160	1,258,620
Average	\$2,490,002	\$1,706,617

The foregoing table reflects solely the Going Concern Value of the property of the Indianapolis Water Company. The company is entitled to such an allowance for Going Concern even if it had no water rights whatever.

It is concluded that although the figure of \$2,490,002 for Going Concern is fair and reasonable, and the figure of \$1,706,617 is unduly low, it will be not over-generous to the company and it will certainly be fair to the public if the Going Concern Value be taken at the arithmetical mean of the two figures above, or \$2,098,619.

[fol. 243d] Combined Water Rights and Going-concern Value

The foregoing considerations lead to the conclusion that the following figures will certainly not overstate the values inherent in the Indianapolis Water Company's properties under the above two heads:

Water Rights	\$500,000
Going Concern Value	2,098,000
	<hr/> \$2,598,000

[fol. 244] COMPLAINANT'S EXHIBIT 12

Order No. 1,400 of the Public Service Commission of Indiana

The Indianapolis Water Company is a corporation organized under the laws of the State of Indiana and engaged in the business of supplying water to the City of Indianapolis and the inhabitants thereof.

On the 24th day of March, 1915, this Company filed with the Public Service Commission of Indiana, a petition in which it is alleged that there was outstanding on the 28th day of February, 1915, bonds of the face value of \$5,609,000.00 and stock of the par value of \$5,000,000.00; that the actual value of all its property, real, personal and mixed is, \$11,806,174.55, and the total liabilities, funded

and otherwise, including its capital stock are \$11,146,490.53 leaving a surplus account in the sum of \$659,684.02.

The petition further alleges, that said surplus represents the real value of said Company's property over and above all its liabilities and capital stock, and that said Company desires to substitute for said surplus account shares of its capital stock and to distribute the same among the stockholders at par.

The petition prays authority to issue and deliver to the stockholders of said Company \$650,000.00, par value of its capital stock.

On the 26th day of March, 1915, the City of Indianapolis filed objections to the granting of the Company's petition.

On the 30th day of March, 1915, the City filed what may be properly designated an intervening petition, in which it alleges that the City of Indianapolis is a municipal corporation having more than 200,000 inhabitants; that the Water Company claims that it has accumulated a surplus of \$650,000.00, and that within a very few years such surplus will be \$1,000,000.00 or more; that said Water Company is charging a rate far in excess of the average rates charged for water furnished citizens of other cities of the same class as Indianapolis, and such rates are excessive.

The City prays that the Commission proceed at the earliest possible time to value the property of the Company with the view of fixing a rate that will be fair to the utility and to the City of Indianapolis.

[fol. 245] To the intervening petition of the City the Company filed an answer, in which it alleges that on the 6th day of March, 1865, the Indiana Legislature enacted a statute authorizing the formation of companies "for the construction of water works in and for incorporated cities" (Acts 1865, page 103). That one of the provisions of said act was as follows: "That whenever the City Council of any incorporated city in the State of Indiana, shall by resolution, declare that it is expedient to have constructed water works for the purpose of supplying such city and the inhabitants thereof with water, but that it is inexpedient for such city under the power granted in its acts of incorporation, to build such works, it shall be lawful for the inhabitants of any such city, and others, to organize a company for the construction of such water works."

That by the provisions of Section 8, of said Statute, "it shall be the duty of the Common Council of the City in or for which such company may propose to erect water works, by resolution duly passed and entered upon its minutes, to grant to such company such right to use the streets, alleys, wharves and public ground of such city as shall be necessary to enable such company to construct the proper works for the supply of water for the use of such city and its inhabitants. Provided, that the Common Council of such City may in such grant impose such just and reasonable terms, restrictions and limitations upon such company, in reference to the manner in which such streets, alleys, wharves and public grounds are to be used and in reference to the charging and collecting of tolls, water rents or other compensation for the supply of water to be furnished by such company to said City and its inhabitants, as shall be neces-

sary to guard against the improper use of such streets, alleys, wharves and public grounds and to protect said City and its inhabitants from the imposition of undue or excessive rates or charges for the supply of water; but no restrictions shall be imposed by said Common Council which will prevent such company from realizing upon its capital stocks an annual income or dividend of ten per cent after paying the costs of all necessary repairs and expenses."

The answer further alleges, that the City of Indianapolis by its Common Council in 1866, adopted a resolution stating that it was expedient that it should have water works, but that it was inexpedient for the city to build such works; that thereafter in January, 1870, the City of Indianapolis, and the Water Works Company of Indianapolis entered into a contract, which was evidenced by Ordinances of said City, one of January 3, 1870, and an amending ordinance of January 24, 1870; that each of said ordinances was duly and in writing accepted by said Water Works Company of Indianapolis; that one of the provisions of said statute of 1865, was that the Water Company should have "power and authority to charge and collect from such city and the inhabitants thereof, and all others, such rates for the water so furnished as shall be fixed by its by-laws, rules and regulations subject only to the restrictions imposed by such common council as aforesaid."

[fol. 246] That by the ordinance contract of 1870, above referred to, and in Section 3, thereof, it was provided, among other things, as follows: "The Company shall furnish water to the City upon such terms and conditions as may be agreed upon between the City Council and the Company. The Company shall have the right to charge the City and its citizens thereof for such water as may be supplied as much as the average price thereof, of like population, that are supplied with as efficient water works, unless a less price may be agreed upon; but the Company may not demand or charge a greater price. In case the Company and the City Council fail to agree on a schedule and rate of charge the same shall be ascertained and determined by five disinterested persons, two of whom shall be chosen by the Company and two by the City Council, and the fifth by the four thus chosen, and the rates so fixed shall remain in force until altered by agreement or arbitration, as aforesaid, and either the City or Company may demand a readjustment of such rates either by agreement or arbitration as aforesaid, at any time after the expiration of one year from such preceding adjustment. But in no event shall the City be charged more than fifty dollars per annum for each hydrant or fire plug."

That when said Water Works Company of Indianapolis in October, 1871, was ready to serve the City and its inhabitants, the City and said Company entered into a written agreement establishing water rates, both public and private, for the said Water Works Company; that the said contract was evidenced by formal corporate action of the said Common Council; that in the year 1881, the legislature of Indiana enacted a statute (Acts 1881, page 60) entitled "An Act in relation to the formation of Water Works Companies by purchasers of the property of preexisting water works companies at

judicial sales." That in the month of April, 1881, all the property, rights, and franchises of the said Water Works Company of Indianapolis were sold by the sheriff of Marion County; that said sale was to a number of persons who were a committee representing holders of bonds of said Water Works Company secured by one of said mortgages; that said sale was duly confirmed by the court and said property and rights were in pursuance of said decree and order of said court confirming said sale duly conveyed by said sheriff to said purchasers; that thereafter on the 23d day of April, 1881, the said purchasers duly executed and caused to be filed in the office of the secretary of state, articles of association of the Indianapolis Water Company, and concurrently conveyed, transferred and assigned to said Indianapolis Water Company all of the property and rights so purchased by them at said judicial sale.

That it was enacted by said statute of 1881, among other things, that any corporation organized thereunder "shall possess all the powers, rights, privileges, immunities and franchises in respect to the said Water Works property so purchased, as aforesaid (and future acquisitions) and all the real estate and personal property, choses in action and contracts appertaining to the same which were possessed or enjoyed by the corporation that owned or held said Water Works property previous to such sale, by virtue of the laws of its organization, and shall have no other powers, privileges or franchises, and such powers, privileges and franchises shall be subject to the restrictions, limitations and power of supervisory control contained in the laws under which such original organization was formed, namely, the act approved March 6, 1865.

That thereafter on the 20th day of March, 1882, the said City of Indianapolis, by its Common Council and Board of Aldermen, entered into a certain temporary contract with said Indianapolis Water Company, concerning certain of the subjects covered by said city charter ordinance contract of 1870, which contract of 1882, by its terms was to be effective for five years from September 1, 1881; that said contract was evidenced by general ordinance No. 12, of 1882, enacted by the Common Council of said City of Indianapolis; that at the time said contract was made said Indianapolis Water Company submitted its schedule of private water rates and its rules and regulations, and the same had full consideration at the hands of said Common Council; that no objection was made thereto by said Common Council, and that it was then believed by said Indianapolis Water Company and by said City, that in the absence of such objection no formal action by the City was necessary and that said rates, rules and regulations, would be and remain in force until a dispute in respect thereto between said Common Council and said Indianapolis Water Company should arise; that thereafter on the expiration of said temporary contract and in 1887, a similar temporary contract was by ordinance of the City of Indianapolis accepted by said Indianapolis Water Company and dated June 28, 1887; that at the time said contract was made the same proceedings as in 1882, were had between the City and the Water Company with respect to private rates; that on the 6th day of January, 1892, on the

termination of said contract of 1887, another like temporary contract was entered into between the Indianapolis Water Company and the City of Indianapolis; that before said last mentioned contract was executed, the legislature of Indiana had enacted a municipal corporation statute applicable to cities of the size of Indianapolis, which created a Board of Public Works and which transferred to the jurisdiction of such Board, among other things, the power to make such temporary contracts which had theretofore been lodged in the Common Council and Board of Aldermen of said City; that at the time said contract of 1892, was entered into the Indianapolis Water Company submitted to the City of Indianapolis, and to its Board of Public Works, and filed with said City, its rules and regulations and rates for private consumers, which rules and regulations and rates the City, by its Board of Public Works, approved; that in 1900, another similar temporary contract was executed between the City, acting by its Board of Public Works, and the Water Company, and, at the time said contract was negotiated and while its terms [fol. 248] were under consideration by the Board of Public Works, the Water Company filed with said City, and presented to said Board of Public Works its rules and regulations and rates for private consumers theretofore adopted by it, and said Board of Public Works by formal action at the time of executing said temporary contract, and upon its minutes, approved said rules and regulations and said private rates and in writing advised the Water Company of said approval; that thereafter a similar temporary contract was entered into between the City of Indianapolis and said Company, dated November 4th, 1908; that said contract was by said Board of Public Works, after it had been approved by it, submitted to the Common Council of said City for its concurrence therein or its disapproval thereof, and thereafter on the 19th day of April, 1909, said Common Council by ordinance duly approved said contract; that at the time said contract of 1908, was in negotiation the Water Company informed the City, by its Board of Public Works, that it had made changes in its rules and regulations and rates, and as so changed it would put them in force and effect concurrently with the execution of said temporary contract by the City; that after said contract was so approved by the Common Council and concurrently with its final execution by the City and Water Company, the said Board of Public Works also approved said rules and regulations and private rates; that on the next day, or within a few days, the said Board rescinded its action approving said rules and regulations and private rates but stated on its records no reason for such rescission and did not at that time nor at any time thereafter, on its records nor in any way to the Water Company, make any objection to any or all of said rules, regulations or rates, but retained the same as filed and presented by the Water Company without action except as above stated, and concurrently with the execution by the City of said contract of 1908, which is still in force, except as effected by the contract between said City and said Water Company, dated June 28, 1916, hereinafter referred to, the Water Company put in force said rules and regulations and said private rates and has ever since kept them

in force; that the City of Indianapolis has never since the organization in 1869, made any objection to either company as respects any rule or regulation or private rate of the Indianapolis Water Company or the old company unless, in law, the petition of the City filed in this matter between the Commission is such an objection; that neither the old company, the present Water Company, nor the City has ever called for or requested the appointment of arbitrators to act upon the subject of water rates as provided for in said ordinance of 1870, and by each of said temporary contracts, or for a readjustment of public or private rates except as above.

That on request from the Public Service Commission of Indiana, the Company furnished the Commission information called for by circular letters, and filed with the Commission a printed copy of its rules and regulations and private water rates then in force; that on the 28th day of June, 1916, the Company and the City entered into a contract in which was fixed a schedule of rates to be charged, and [fol. 249] which it was therein provided that the Company should have the right to charge and receive for the term of twelve years from the 30th day of November, 1916, for water supplied by it during said term for all purposes, public and private, to said City of Indianapolis and its inhabitants, and also rules and regulations to be observed by said Company and consumers in respect to such supply, which said contract was thereafter on the 11th day of July, 1916, ratified and approved by an ordinance adopted by the Common Council of said City, which ordinance on the 12th day of July, 1916, was approved by the Mayor of said City; that said contract was entered into under and pursuant to the provisions of said statute of 1865, and ordinance contract of 1870, and is now in full force and only subject to such regulative authority as is reserved to the State of Indiana that the Water Company does not dispute that the Commission, acting under the mandatory provisions of the Commission Statute of 1913, and especially of Section 9, thereof, has authority, at the State's expense, to make such a full and complete valuation of this Company's property as the Commission may desire, and offers to give to the Commission without cost to it or the State, every assistance in its power by the use of its regular employes, and of its present facilities, to make the taking of inventories and the valuing of the property as convenient and accurate as possible, but the Company denies that the Commission may make or use such valuation as a basis for or otherwise in fixing rates for said Company, either public or private, or that the Commission may otherwise legislatively or exclusively fix such rates, or in any way deprive said Company of the benefits of its said contracts, including the provisions concerning earnings and dividends contained in the Statute of 1865, which action the Company insists would be in violation of Article 10, of the Constitution of the United States, as an impairment by the State of the contracts hereinbefore referred to.

The Company's answer denies the jurisdiction of this Commission to determine just and reasonable rates, tolls and charges for the services it renders to the City and its inhabitants thereof. Our first duty is to determine the sufficiency of this answer, for, if the position as

sumed by the Company is a correct one, our duties and responsibilities are concluded. This phase of the proceedings will be first discussed and determined.

There is nothing in the act of 1865, that says directly, or by any necessary inference, that the power of the State to determine the reasonableness of the rates of this Company had been surrendered by the State. After the fullest investigation, we conclude that this Commission has the power to fix just and reasonable rates for this Company.

The records of the Company were audited by the Commission's accountants; a tentative valuation of the property of the Company was made by the Commission's staff, and the report of the accountants and the tentative valuation made by the staff were each delivered to the City and to the utility as prescribed by the Commission's rules. Ten days were given to each of the parties to file exceptions to the tentative valuation by the staff. The City filed no exceptions. The Utility filed such exception as compelled a review of the entire valuation of the staff. Ten days' notice was given to the parties, and to Horace Herr, et al.; of the time and place for the hearing of the matters set forth in the intervening petitions.

At the hearing the City was represented by William A. Pickens, corporation counsel. The Indianapolis Water Company was represented by Joseph Slatterly, Ferdinand Winter and Baker and Daniels. Horace Herr, et al.; was represented by Henry Warrum. The hearing was by the entire Commission. The report of the accountants, and the tentative valuation of the staff were introduced in evidence by the City, at the request of the Commission and without prejudice to the rights of either of the parties. During the hearing the Company introduced in evidence an appraisal of its property made by Leonard Metcalf, together with a large number of exhibits. Much evidence was introduced besides the documents hereinabove pointed out. All of this was taken in shorthand by the Commission's stenographers and transcribed into long hand.

Method of Determining the Value of the Property

In determining just and reasonable rates, the basis of calculation is the fair value of the property used for the convenience of the public. The ascertainment of that value is not controlled by artificial rules. It is not a matter of formulas, but there must be a reasonable judgment having its basis in a proper consideration of all relevant facts. The scope of the inquiry was thus broadly described in *Smyth v. Ames*, 169, U. S. 446: (Citing Authorities).

We will now endeavor to ascertain the following:

1. Cost of reproduction, new less depreciation.
2. Original cost to date.
3. Any other values disclosed by the evidence.

The staff finds the cost of reproduction new of the entire property to be the following:

	Cost of reproduction	Present value
A Land	\$1,733,110	\$1,733,110
B Transmission and distribution	3,310,423	3,046,038
C Building and misc. structures	1,309,668	1,183,595
D Plant equipment	1,177,591	1,001,750
E General equipment	85,233	60,097
F Paving	56,824	54,551
12% on B, C, D, E and F (see note below)	712,769	641,524
H Material and supplies	75,078	74,167
Grand Total	<u>\$8,460,696</u>	<u>\$7,794,832</u>

[fol. 251] Note: 12% allowed on Items B, C, D, E and F, to cover engineering, superintendence, interest during construction, taxes during construction, fire and liability insurance, small omissions of inventory, contingencies, etc.

There is also reported by the staff a present value of the property all of which is based upon the cost of reproduction except the canal. In this summary the canal is given what is described as an "economic" value. This summary is as follows:

	Cost reproduction	Net reproduction
A Land	\$1,080,550	\$1,080,550
B Transmission and distribution	3,310,423	3,046,038
C Buildings and misc. structures	1,309,668	1,183,120
D Plant equipment	1,574,945	1,433,334
E General equipment	85,233	60,097
F Paving	56,824	54,551
12% on B, C, D, E, and F	760,372	693,257
H Material and supplies	75,078	74,167
Grand total	<u>\$8,252,435</u>	<u>\$7,625,114</u>

It will be observed that neither of the above summaries purports to include anything for either going value or working capital.

Metcalf's reproduction cost estimate of the property of the Company is as follows:

	Cost reproduction	Net reproduction
A Land	\$2,781,682	\$2,781,682
B Transmission and distribution	3,657,343	3,369,807
C Buildings and misc. structures	1,526,084	1,379,784
D Plant equipment	1,490,800	1,307,489
E General equipment	75,000	67,500
F Paving	100,000	96,100
12% Overhead plus 7% interest on B, C, D, E and F	1,381,944	1,255,246
H Materials and supplies	76,700	76,700
Organization, including interest ..	85,600	85,600
Water rights	113,000	113,000
Going value	1,250,000	1,250,000
Total excluding working capital.	\$12,538,153	\$11,782,908
Debatable items (in addition to above):		
C. I. pipe on basis of original and future cost	\$96,000	
Labor on present basis	135,000	
Overhead and interest on above	47,000	
	278,000	266,900
3% overhead and 7% interest on land ..	284,000	284,000
Pavements not cut	1,100,000	1,056,000
Water rights at Noblesville (additional)	25,000	25,000
Value of exemption from necessity of building bridges	50,000	50,000
	\$14,275,200	\$13,464,800

[fol. 252] Attention is called to the fact that this summary includes nothing for working capital.

Canal

The canal which forms a part of the property involved in this proceeding was constructed for power and transportation purposes. The attempt to construct and operate this and other canals imperiled the State's credit and brought it to the verge of bankruptcy. It was then sold to a canal company, which succeeded no better than the State. The canal company sold the canal to the Water Works Company of Indianapolis about 1869. This Company operated until 1881, when it was sold, in a foreclosure proceeding

to the Indianapolis Water Company. No dividends were paid by either company until 1885. The first station was on West Washington Street, and was operated by water power. The ordinance of 1870 however, required the Company to install steam power for an emergency.

The canal appears to have been perfectly adapted to become a part of the water plant of the city. It intercepts the waters of White River near Broad Ripple. This is so far up-stream that the source of supply has been free from the contamination arising from densely settled districts of the City for nearly a half century. This has been done so successfully that there is not in the long record in this proceeding a word of evidence touching the impurity of the water or the insufficiency of the supply. This canal carries the water from the river at Broad Ripple to the filter beds, and thence to the Riverside and Washington stations, by gravity. It saves the lift of millions of gallons of water daily from White River to the level of the filter beds. It furnishes a large storage basin for water, a part of which is sold to industries in proximity to its banks. It furnishes water power to the West Washington street pumping station. The economic value of the canal is very large, when regard is given to the savings it effects, and the revenue it produces. Yet, its economic value is not represented by such savings and such revenues. Its great value lies in the fact that it has never failed to do efficiently the work that must be done by some instrumentality of the water plant. The cost of a steel or concrete main or conduit, that would carry a far less quantity of water, would exceed the cost of reconstruction of the canal, and its structural parts.

The entire canal property is used and useful in the performance of the service this utility was created to perform. No member of the staff has recommended its abandonment. Nor has any one else made any such insistence. But, the staff, after developing the cost of reproduction new less depreciation, discards this and finds a certain economic value. This position is not tenable. If the State, through this Commission, should direct the abandonment of the facilities represented by the canal and its structures, and direct the installation of other facilities to discharge the function now performed by those existing, it would be an act of management and not an act of regulation. This the State has no power to do.

[fol. 253] The analysis of the value of the canal property will appear under the discussion of land, structures and plant equipment.

Lands

The Company owns about 860 acres of land and lots all of which lie in or near the city and is very valuable property. At the time of the hearing the Company valued these lands at \$2,837,192, and the valuation of the staff, obtained by a Mr. Marvin, who has had no experience in the purchase and sale of Indianapolis real estate, which valuation was \$1,733,110. Since the conclusion of the hearing, further investigation brought the staff's estimate of the land to \$2,329,220.

This Company has entered into an undertaking to furnish this community a constant and adequate supply of pure and wholesome water. The responsibility rests on the Company. This Commission will not knowingly do anything that will relieve it of its responsibility. If it fails in this duty, through its fault, or from any other cause, it shall not plead in justification of its wrong, that an order of the Commission made it necessary to deprive itself of property the use of which might have enabled it to prevent the impurity of its service. The officers of the Company claim some present use, or use in the reasonably immediate future for all the lands included in the appraisal. The lands, except as above set forth, will not be excluded, nor the Company be permitted to escape any part of its undertaking to the people.

Water Rights

It has been the public policy of the State to permit water companies to acquire water rights. This is evidenced by the statute now in force and by previous enactments. Section 1 of the act of 1889 enumerates the powers of water companies. The third subdivision is as follows:

"To purchase, and by voluntary grants and donations receive and take, and by its officers, agents and servants, enter upon, take possession of, hold and use all such real estate, water rights and other property as may be necessary for the construction of said water works, and other accommodations necessary to accomplish such construction and operation, etc."

The Company has valuable water rights along both Fall Creek and White River. It is also a large riparian owner. If this City should grow, as its citizens hope it will, it does not require a prophet to forecast the time when it will be required to take its water much farther up the stream than Broad Ripple. As the sources of contamination multiply the care and diligence of the Company will be taxed more and more to provide a source of pure and wholesome water for those whom it serves. Nor is there any denial by anybody in this proceeding, that there are water rights that are valuable and should be taken into consideration.

The staff reports water rights of the value of \$30,000.00, but includes them as a part of the value of the real estate. The Company insists that there are water rights of the fair and reasonable value of \$100,000.00, over and above its real estate; that the water rights are used by the Company, and are a kind of property that can not be overlooked in a just valuation for rate making purposes, is clearly settled by the highest court in the land. The citation above referred to concludes discussion upon the matter. There is nothing to do but to make such an allowance as is just and reasonable.

To fix the value of water rights is not more uncertain or indefinite than to fix any other items of value. These rights are not even intangible. They are real, permanent, and, both used and useful. But whatever the value of such rights may be they will not be included.

Going Value

On the subject of "going value" much could be said on either side of the controversy, and the authority of courts of last resort could be cited on either side. In determining the cost of reproduction less depreciation we have simply found the value of the visible parts of the existing plant. The allowance for contingencies, etc., is not an allowance of an intangible value. The values represented by the 13% contingencies, etc., is founded upon the theory that in reality, in truth and in fact, the visible physical properties would actually cost 13% more than the actual cost of the materials and the labor of installing the same.

It is the judgment of the courts of the country in the best considered cases, and of practically all of the engineers of national reputation that have appeared before this Commission, that the value of the connected units of the physical property did not represent the fair and reasonable value of the property as a going concern. (Citing authorities.)

That "going value" should be allowed in this proceeding is manifest and clear. For the reasons hereinabove set forth, and many others that might be cited, we find the "going value" of this plant to be \$300,000.00. This is not necessarily based upon any percentage theory. It is based upon the reasonable judgment that this large property is worth \$300,000.00, more with its business established, than it would be worth, if it was just completed and without a single customer.

Working Capital

The working capital necessary for the successful operation of [fol. 255] this property in excess of its material and supplies is capable of a reasonably close approximation. One Hundred Thousand Dollars of cash in hand will enable the Company to buy its necessary material and supplies for a cash discount that will in the end cheapen the rate of its service to its patrons. We find that the necessary working capital is \$75,000.00.

Contingencies, etc.

This Commission allowed 13% for contingencies in the Indianapolis Light and Heat Company case, and in the Terre Haute Water Works case. The Wisconsin Commission has in recent years allowed 15% and in some cases more than this. We think 13% allowance for the items mentioned is a conservative one.

Summary

In endeavoring to ascertain the cost of reproduction new of this property and the cost of reproduction new less depreciation thereof, we have arrived at the following conclusions:

	Cost of reproduction	
	New	Less depreciation
A Land	\$2,500,000	\$2,500,000
B Transmission & Distribution	3,514,639	3,234,228
C Bldgs. & Structures	1,447,147	1,260,194
D Plant Equipment	1,323,050	1,207,759
E General Equipment	85,233	65,097
F Paving	85,000	80,000
G 13% on B, C, D, E & F	839,159	760,146
H Material & Supplies	75,078	74,167
I Going Value	328,000	300,000
J Working Capital	75,000	75,000
K 1916 Additions	96,807	96,807
L Omitted Warehouse	37,318	16,793
Total January 1, 1917	\$10,406,431	\$9,670,191

Actual Cost

It is necessary to keep in mind that the great fundamental fact we are endeavoring to discover is the "present value" of the property of the Company that is used and useful for the convenience of the public. We are in pursuit of this, as the controlling element in our inquiry. For it is this fair and reasonable "present value" that the law protects and the constitution guards with the utmost fidelity. The determination of the cost of reproduction, less depreciation, of the property does not necessarily establish the "present value" thereof. The ascertainment of the actual cost of the property does not necessarily fix its "present value". In the first instance this is a controlling factor. But to regard this as a final and conclusive measure of "present value" would utterly disregard the depreciation and the appreciation of property. It is the common observation of [fol. 256] all that property is subject to depreciation and appreciation. To regard the actual cost as the measure of value upon which a return should be earned would require the public to underwrite every investment in public service corporations. Besides the courts have so frequently and so fully expounded this doctrine that actual cost does not necessarily determine "present value", that to contend otherwise is utterly vain and useless.

Actual cost, is however, a helpful consideration in the determination of "present values". But "actual cost" does not mean book value. It means the costs of original construction plus the costs of additions and betterments that are a proper charge to the construction, or plant account.

A serious obstacle in the use of this theory is the difficulty of its actual determination. The difficulty is nearly overwhelming where the life of the Company under investigation extends backward nearly 50 years. We are just now in the dawn of correct accounting. The early systems were extremely crude and unreliable.

The record of the present Company shows that it expended in construction, or plant account, the sums of money, and in the years set forth in the following table:

Table IX

Additions from April 23, 1881, to Dec. 31, 1881.....	\$66,286.85
Additions from Jan. 1, 1882, to Dec. 31, 1882.....	110,793.98
Additions from Jan. 1, 1883, to Dec. 31, 1883.....	71,348.50
Additions from Jan. 1, 1884, to Dec. 31, 1884.....	72,204.92
Additions from Jan. 1, 1885, to Dec. 31, 1885.....	30,725.35
Additions from Jan. 1, 1886, to Dec. 31, 1886.....	28,703.14
Additions from Jan. 1, 1887, to Dec. 31, 1887.....	34,285.76
Additions from Jan. 1, 1888, to Dec. 31, 1888.....	36,981.18
Additions from Jan. 1, 1889, to Dec. 31, 1889.....	91,732.30
Additions from Jan. 1, 1890, to Dec. 31, 1890.....	101,626.80
Additions from Jan. 1, 1891, to Dec. 31, 1891.....	68,280.30
Additions from Jan. 1, 1892, to Dec. 31, 1892.....	135,079.80
Additions from Jan. 1, 1893, to Dec. 31, 1893.....	84,414.64
Additions from Jan. 1, 1894, to Dec. 31, 1894.....	102,227.31
Additions from Jan. 1, 1895, to Dec. 31, 1895.....	130,651.24
Additions from Jan. 1, 1896, to Dec. 31, 1896.....	147,489.26
Additions from Jan. 1, 1897, to Dec. 31, 1897.....	202,122.23
Additions from Jan. 1, 1898, to Dec. 31, 1898.....	121,020.98
Additions from Jan. 1, 1899, to Dec. 31, 1899.....	73,587.18
Additions from Jan. 1, 1900, to Dec. 31, 1900.....	261,844.61
Additions from Jan. 1, 1901, to Dec. 31, 1901.....	197,045.67
Additions from Jan. 1, 1902, to Dec. 31, 1902.....	278,520.91
Additions from Jan. 1, 1903, to Dec. 31, 1903.....	487,421.78
Additions from Jan. 1, 1904, to Dec. 31, 1904.....	279,535.21
Additions from Jan. 1, 1905, to Dec. 31, 1905.....	309,720.15
Additions from Jan. 1, 1906, to Dec. 31, 1906.....	278,516.17
Additions from Jan. 1, 1907, to Dec. 31, 1907.....	270,092.52
Additions from Jan. 1, 1908, to Dec. 31, 1908.....	319,889.56
Additions from Jan. 1, 1909, to Mar. 31, 1909.....	17,475.66
Additions from Apr. 1, 1909, to Mar. 31, 1910.....	185,620.65
Additions from Apr. 1, 1910, to Mar. 31, 1911.....	230,555.53
[fol. 257]	
Additions from Apr. 1, 1911, to Dec. 31, 1911.....	161,383.11
Additions from Jan. 1, 1912, to Dec. 31, 1912.....	180,769.32
Additions from Jan. 1, 1913, to Dec. 31, 1913.....	211,036.66
Additions from Jan. 1, 1914, to Dec. 31, 1914.....	438,479.29
Additions from Jan. 1, 1915, to Dec. 31, 1915.....	134,841.62
Additions from Jan. 1, 1916, to Dec. 31, 1916.....	106,411.11
Total annual additions.....	\$6,110,319.28
Plus	2,001.58
	\$6,112,320.86
Plant account Water Works Company of Indianapolis.....	1,574,840.04
Total combined plant account.....	\$7,687,160.90

However, "actual cost" does not mean the actual Outlay of the Water Companies. These Water Companies, from the beginning of the operation of the first to the present day, have owned the channel of the canal. The canal with the Washington street lands was purchased from the canal company by the Water Works Company for \$200,000.00. There had been expended by prior owners

of the canal for more than that amount in its actual construction. Nor has there ever been a time when a more economical device could have been planned to render the service that is rendered by this canal. Prior owners of this property had expended more than \$200,000.00, that has not been taken into account in the \$7,687,160.90, above set forth. The evidence discloses that the system of accounting used by each of the Water Companies was defective in that there was not a careful division of expenditures between capital account and operating expenses. The evidence shows, with reasonable clearness, that there has been invested in this property in actual money, excluding "going value", more than \$8,000,000.00. It is further shown, that there has been an appreciation in the value of the real estate of at least \$1,500,000.00. Under the law, in arriving at the value of this property, this appreciation of real estate should be added to the actual expenditure.

The appreciation and depreciation of property of a public service corporation must be taken into account in arriving at its fair present value. This is clearly set forth in *Louisville & Nashville Railroad Company v. Railroad Commission*, 196 Fed. 800 (822) (citing Authorities).

The position of these courts is sustained by the Supreme Court of the United States in the Minnesota rate case, and can not be reversed until we set aside all existing constitutions.

When the City of Indianapolis granted the first ordinance to the [fol. 258] Water Works Company of Indianapolis it determined by resolution that it was inexpedient for the City to build its own water plant. If the City had found it was expedient at that time for it to build a water plant, and had invested the amounts that have been invested in this property, and had purchased the identical properties that these two Water Companies have purchased, there would be no question but what the City was entitled in a rate making case to the fair present value of all the property of its Water Company, including the appreciation of its real estate.

The property now owned and used by the Indianapolis Water Company could not duplicate today for less than \$12,500,000.00.

The evidence discloses that the present owners paid \$4,000,000.00 for the \$5,000,000.00 of stock in the latter part of 1912 and that the stock is worth on the market today \$6,000,000.00. The present owners have invested in this property at this time \$9,740,768.75.

Therefore, after considering all the evidence in this proceeding, and after giving weight to the reasonable cost of bringing the property to its present state of efficiency, including "going value," as above found, the Public Service Commission of Indiana, finds and by order fixes the value of all the property of the Indianapolis Water Company, that is used and useful for the convenience of the public at not less than \$9,500,000.00.

After the intervening petition was filed asking the Commission to fix just and reasonable rates a contract was entered into by the Company and City fixing rates to be effective for a period of 12 years. This contract the Commission declined to approve for the reason

that many of its provisions simply restated legislative enactments, and many were repugnant to the provisions of the Shively-Spencer Utility Commission Act.

But when this Company was in the full possession of all its faculties it agreed with the City upon a schedule of rates, tolls and charges. The evidence taken on the hearing of this matter discloses clearly that the rate agreed upon will not yield the needed revenue during the first year of operating under such rate. It is believed, however, by the Commission, that growth of the Company's business and possible economies that may be affected will enable the Company under this schedule of rates, tolls and charges to earn 6% dividend on its stocks, and that the earnings under the rates will gradually increase. It is difficult to establish any rate that will yield the first year of its operation the needed revenues of a company that is continuously growing, and which rate will not in the following years be excessive. It is better to establish a rate that will yield slightly less than the needed revenues, and that will remain in force and effect, until it earns, over a series of years, an average annual return that equals the needed annual revenues of the Company.

[fol. 259]

COMPLAINANT'S EXHIBIT No. 13

Order No. 6613 of Indiana Public Service Commission, State of Indiana

PUBLIC SERVICE COMMISSION OF INDIANA

No. 6613

In the Matter of the Valuation of the Property of THE INDIANAPOLIS WATER COMPANY

Approved Jan. 2, 1923

Valuation—Legislative Intent.

1. The legislative intent is that the Commission shall at the time of the inquiry value of property in accordance with the prevailing decisions of the courts.

Valuation—Not Permanent.

2. A value placed upon the property of a public utility is not necessarily permanent any more than the value of any other kind of property is permanent.

Valuation—Structural Overheads.

3. In placing a value on the property of the Indianapolis Water Company, an allowance of 15 per cent was made to cover structural overheads.

Valuation—Accrued Depreciation.

4. When cost of reproduction new either on average prices or current prices is used as a basis for the value, the accrued depreciation should be deducted, even though the property is in 100 per cent operating condition.

Valuation—Assessment for Taxation.

5. The assessed value of a utility property for taxation purposes is proper evidence but not of controlling weight.

Valuation—Property—Not used and useful.

6. Property not used and useful for the convenience of the public should be excluded in a value for rate-making purposes, but should be included when the total value for other purposes is to be determined.

Valuation—Cost of Reproduction New—Current Prices.

7. If it were known that the present price level would continue indefinitely in the future, and that the purchasing power of the dollar would remain the same, then the cost of reproduction at the time of the inquiry would be the true measure of value. The reasonableness of using average prices is apparent.

Valuation—Cost of Reproduction Basis.

8. The great weight of authority of both federal and State [fol. 260] courts has established the rule that the value of a property is to be determined by the cost of its replacement less depreciation plus reasonable allowances for going value and operating capital. Cost of reproduction, however, does not necessarily mean the use of present-day prices to the exclusion of all other considerations, when such prices are believed to be abnormally high or low.

Valuation—Enhancement of Value.

9. The owners of a public utility property are entitled to the benefit of any enhancement of value that may have occurred.

Valuation—Purchasing Power of the Dollar.

10. The purchasing power of the dollar at the time of the inquiry is an element to be considered in fixing the value of a public utility property.

Valuation—Prices on a Permanently High Level.

11. It appears that prices are on a permanently high level as compared with pre-war prices, and there is no likelihood that a price level approximating the pre-war level will prevail for many years in the future.

Valuation—Present Value v. Original Cost.

12. The rule is certainly established and unquestioned that the value to be found shall be the value at the time of the inquiry and not what a property may have cost.

Valuation—Going Value.

13. A good property has an intangible value or going concern value over and above the value of the component parts of the physical property that is actual and not speculative. Factors to be considered are the earning power of the property, its rates, the business it has attached, its public relations, its credit, the character of the city, the prospects for the future, how planned for the future, operating efficiency, standard of maintenance, etc.

Valuation—Working Capital.

14. A utility is entitled to have included in the value of its property an allowance for working capital, which is materials and supplies on hand and the average amount of cash which it is reasonably necessary for it to have available throughout the year in order that it may meet its cash requirements in a business-like manner.

Valuation—Water Rights.

15. The ownership, right or privilege of taking and using all the water in certain streams which are the only available water supply except wells for the purposes incident to the business, is an extraordinarily valuable part of the value of a water property.

Valuation—Overflow Rights.

16. The right to overflow certain lands not owned in fee simple is a tangible and actual property right, and this value should be included in the total land.

[fol. 261] Valuation—Average Prices.

17. The Commission adopted as a basis for the valuation of the property of the Indianapolis Water Company the average prices of labor and material for the ten-year period ending December 31, 1921.

Valuation—Average Prices—Original Cost.

18. The adoption of the average of prices for the ten-year period ending with 1921 is in itself a recognition of the influence of the original cost factor.

Valuation—Land.

19. The land of the Indianapolis Water Company was valued on the basis of its present market value.

Valuation—Basis.

20. Each valuation case must be decided upon the particular facts involved and no certain yardstick can be used to measure the value of all properties. No two properties are alike in location, public relations, saturation, rates, earning power, growth, future prospects and the various other elements affecting the value, so that each must be studied by itself and its value fixed accordingly.

Valuation—Elements to be considered.

21. A large number of factors or elements must be considered by the Commission in fixing the value of a property.

Valuation—Total Value.

22. The Commission found the total value of the property of the Indianapolis Water Company to be \$16,455,000, made up as follows: Physical property, \$14,904,000; going value and water rights, $9\frac{1}{2}$ per cent, \$1,416,000; working cash capital, \$135,000.

Public hearing held pursuant to notice at the office of the Commission, commencing December 19, 1922.

VAN AUKEN, Commissioner:

On June 1, 1922, petitioner, Indianapolis Water Company, filed its petition, asking the Commission to value all of its property. The material averments of the petition are as follows:

"1. That said Company is a duly organized corporation of the State of Indiana, engaged in the business of supplying water in the City of Indianapolis, and has heretofore, under date of February 16, 1914, filed with your honorable body copies of its Articles of Association and franchises.

"2. That under date of July 1, 1896, the company executed and delivered its mortgage and deed of trust to New York Security and Trust Company and Albert Baker, as trustees, to secure an issue of bonds in the sum of \$3,000,000, said bonds and mortgages being dated July 1, 1896, payable July 1, 1926, interest payable semi-[fol. 262] annually at the rate of five per cent per annum, and said mortgage and bonds were and are a first lien on all of the property and franchises of the Company. That of said bonds so authorized there are outstanding at this time \$2,359,000 face value; and said mortgage is at this time a closed mortgage and no further bonds can

be, or are intended to be, issued thereunder. A copy of said mortgage was heretofore filed with your honorable body under date of February 16, 1914.

"3. That under date of January 1, 1910, the Company executed and delivered its first and refunding mortgage and deed of trust to Bankers Trust Company of New York and Albert Baker, as trustees, to secure an issue of bonds in the sum of \$10,000,000, said bonds being dated January 1, 1910, payable January 1, 1940, interest payable semi-annually at the rate of four and one-half per cent per annum, and said mortgage and bonds were and are a lien on substantially all of the property and franchises of the Company subject only to the bonds secured by the mortgage of the Company referred to in the preceding paragraph. That of said bonds so authorized there were issued for the corporate purposes of the Company up to and including December 31, 1921, bonds in the amount of \$3,721,000 face value. A copy of said mortgage was heretofore filed with your honorable body under date of February 16, 1914.

"4. That by action of the directors and stockholders of the Company at a meeting duly called and held June 22, 1920, the capital stock of the company was increased by authorizing the creation and issuance of 20,000 shares of 7 per cent preferred stock of the par value of \$100 each, said stock to be issued and sold from time to time at prices to be fixed by the board of directors of the Company, and that under date of June 25, 1920, there was filed with the secretary of state of the State of Indiana, a certificate, in writing, signed by the president and attested by the secretary of the Company, duly acknowledged, certifying that the issuance of preferred stock has been authorized by such Company—the amount of such preferred stock, the number of shares into which it is divided and the amount of each share.

"5. That under the provisions of a trust agreement dated June 22, 1920, with the trustees of its first and refunding mortgage and deed of trust and agreeable to the provisions and terms of its preferred stock issue, the Company is entitled to issue preferred stock to an amount at par, equal to the total cost of additions and improvements up to \$1,000,000, and the remaining \$1,000,000 par value of preferred stock shall be issued at par equal to 80 per cent of the cost of additions and improvements.

"6. Your honorable body has heretofore authorized the issuance and sale of the Company's 7 per cent preferred stock to reimburse its treasury for additions and improvements made during the period beginning November 1, 1918, and ended May 31, 1920 in the amount [fol. 263] of \$295,000, and for the period beginning June 1, 1920, and ended December 31, 1920, in the amount of \$220,000, and for the period beginning January 1, 1921, and ended August 31, 1921, in the amount of \$348,000, and for the period beginning September 1, 1921, and ended December 31, 1921, in the amount of \$154,000, and that in accordance with said orders of your honorable body the

Company issued and sold \$1,017,000 par value of said 7 per cent preferred stock to reimburse it for expenditures made during the periods aforesaid.

"7. That as above set forth the Company has outstanding interest paying and dividend paying securities summarized as follows:

Bonds dated July 1, 1896.....	\$2,359,000
Bonds dated January 1, 1910.....	3,721,000
Preferred Stock	1,017,000
Total	<hr/> \$7,097,000

"That as set forth in paragraph 2 hereof the bonds dated July 1, 1896, and secured by mortgage bearing even date are due and payable July 1, 1926, and same are callable at any time on payment of the face value thereof; that upon payment of said bonds the bonds dated January 1, 1910, secured by mortgage of even date, referred to in paragraph 3 hereof, will become a first lien on the property of the Company and that while bonds secured by said mortgage are reserved to refund the bonds due July 1, 1926, said bonds carry interest at the rate of four and one-half per cent and same could only be sold under present market conditions at a heavy discount and sufficient funds could not be raised by sale of the reserve bonds to pay the amount due on the bonds which mature July 1, 1926.

"8. That securities of some class carrying interest at a higher rate than four and one-half per cent will have to be created and sold to provide funds to retire and pay the bonds due July 1, 1926, and to secure a market for said securities it will be necessary for the Company to have a valuation made of its property, and petitioner considers it advisable to have said valuation made at this time and before said securities are created and offered to bankers or the public.

"Wherefore, your petitioner applies to your honorable body to have a valuation made of its property, and an order of the Commission made thereon, after public hearing, under the provisions of the Statute of 1913, entitled 'An Act concerning public utilities, creating a public service commission, abolishing the railroad commission of Indiana, and conferring the powers of the railroad commission on the Public Service Commission.'"

Subsequent to the filing of the petition, the City of Indianapolis, by its Corporation Counsel, filed a request that the Commission, in making the valuation of the property, consider as one of the elements of valuation the original cost less depreciation of petitioner's property used and useful.

[fol. 264] Section 9 of the Public Service Commission Act provides: "The Commission shall value all the property of every public utility actually used and useful for the convenience of the public. As one of the elements in such valuation, the Commission shall give weight to the reasonable cost of bringing the property to its then state

of efficiency." It is also provided: "The Commission may at any time on its own initiative make a revaluation of such property."

It is important to note that the law does not mention original cost, historical cost, original investment or prudent investment.

(1) The legislative intent is that the Commission shall at the time of the inquiry value a property in accordance with the prevailing decisions of the courts.

This petition asks the Commission to place a value on the property of petitioner, including the utility property used and useful for the convenience of the public, and also all other property owned by petitioner. The purpose of making the valuation is to enable petitioner to consummate certain necessary financing, and does not in anywise involve the question of rates.

The value of the whole property of petitioner has never been finally fixed by the Commission. In an order dated March 15, 1917, in Cause No. 1400, and proceedings incident thereto, the matter of the then value of petitioner's property was gone into at great length. Unfortunately, the Commission at that time did not arrive at a final conclusion concerning the value of the property, but merely found the value of that part of the property then under consideration to be not less than \$9,500,000. Such a finding does not greatly assist the Commission at this time, although the investigations made and the discussions of the law as set forth in the order are of material assistance. It is apparent from the order in Cause No. 1400 that the Commission at that time believed the property to have a value much in excess of the figure mentioned as a minimum. It is also apparent that the appraisals submitted at that time were based on extremely low unit prices and that such appraisals were of doubtful accuracy in certain particulars. Certain large items of utility property were not included in the total, and none of the large amount of non-utility property was included. Since 1916, when the old appraisals were made, extensive additions have been made to the property.

(2) A value placed upon the property of a public utility is not necessarily permanent any more than the value of any other kind of property is permanent. The law requires that the property of public utilities be valued, first, in order that there may be a proper basis for the rate of return, it being the law that a utility economically and efficiently operated may earn a reasonable return on the value of its property used and useful for the convenience of the public; second, in order that the Commission intelligently may regulate the issuance and sale of securities of the utility; and, third, for the purpose of purchase and sale, or merger. The value fixed, is therefore, to be [fol. 265] used in the immediate future if the occasion arises, and for such a period in the future as the value so fixed appears to be proper.

In the order of this Commission in Cause No. 1400, under date of March 15, 1917, referring to the Indianapolis Water Company property, the Commission said:

"The property now owned and used by the Indianapolis Water Company could not be duplicated today for less than \$12,500,000."

There is no reason to question the correctness of that statement. The prices as disclosed by the evidence in Cause No. 1400 were the prices of 1916 and prior years and not later. Prices of 1916 were what are now called prewar prices; that is to say, 1916 was prior to the commencement of the material increases of prices which occurred as a consequence of the war and which commenced about the middle of 1917. It is probable that the reproduction cost of the property based on 1916 prices would be within 10 per cent of the original cost of the property with the exception perhaps of the real estate, the canal and some other items which may have been acquired by the Company at an early date at very low prices. It appears that the \$12,500,000 figure used by the Commission in Cause No. 1400 did not include non-operative property and did not include such intangible value as may have existed at that time. Assume that the \$12,500,000 mentioned in the order in Cause No. 1400 did correctly represent the value of the physical operative property at that time, and a perusal of the whole order in that cause leads to the conclusion that it did. To that amount would be added \$1,639,146 of capital additions since January 1, 1917, to November 30, 1922, as shown by the evidence in this case, which would make the total physical property on the basis of the \$12,500,000 cost of reproduction found in Cause No. 1400 \$14,139,146. Petitioner would be entitled to have added to this sum reasonable allowances for working cash, going value, water rights and such other elements as may not have been included in the original figure, and also the value of the non-operative property which apparently was not included in the original figure. The value on this basis would exceed \$16,000,000 for the whole property, without giving any consideration to the enormous enhancement of value of all good property in Indianapolis which has occurred since January 1, 1917.

Here was included in the order a copy of Mr. Elmes' exhibit on Water Rights, which is condensed as Complainant's Exhibit 11, *supra*, in this statement.

The engineering staff of the Commission submitted two itemized appraisals of the physical property explained by Mr. Carter, chief [fol. 236] engineer. There is also in evidence, as disclosed by Exhibit No. 2, the computation of the staff as to what the appraisal of the physical property would be if certain other bases were used. These additional sums were arrived at in the usual way by the application of certain index figures to all the items in the appraisal except land and materials and supplies, which are the same in each total. All the appraisals of the engineering staff are set out below, the first two being the appraisals included in Exhibit No. 1 and the remaining being the totals arrived at by the use of Index figures:

	Cost of reproduction	Present value
Appraisal No. 1 1911-1920 prices physical property only.....	\$14,829,945	\$13,979,744
Appraisal No. 2 1911-1920 prices physical property only, market prices of cast iron pipe.....	15,168,140	14,307,428
Appraisal No. 1 1912-1921 prices physical property only.....	15,595,318	14,689,078
Appraisal No. 2 1912-1921 prices physical property only.....	15,957,186	15,039,700
Appraisal No. 1 1913-1922 prices physical property only.....	16,182,647	15,232,676
Appraisal No. 1 1918-1922 prices physical property only.....	19,518,680	18,335,974
Appraisal No. 1 October, 1922, prices physical property only.....	18,439,551	17,328,249
Appraisal No. 2 October, 1922, prices physical property only.....	18,882,424	17,759,352

Petitioner submitted in evidence various appraisals of the property made by the firm of Hagenah and Erickson, testified to by Mr. Dorszeski, a member of the firm, and by Sanderson and Porter, testified to by Mr. Elmes, a member of the firm, and by Mr. Vogelback, one of its engineers.

Exhibit No. 5 is an inventory and appraisal of petitioner's property made by Hagenah and Erickson based on the average level of labor and material prices for the ten-year period ending December 31, 1920. This is the same ten-year period used by Mr. Carter, chief engineer of the Commission, in his first two appraisals heretofore mentioned. This appraisal, explained by Mr. Dorszeski, [fol. 267] is of the physical property only, and shows as follows:

Reproduction cost new of physical property.....	\$16,745,861
Reproduction cost new less depreciation.....	16,020,456

The above total includes nothing for materials and supplies, working cash, water rights or going concern value. It does include 15 per cent for structural overheads, which percentage was used because the Commission's engineers were using the same percentage, although Mr. Dorszeski testified that in his opinion at least 17 per cent should have been allowed for structural overheads.

Exhibit No. 6 is an appraisal of petitioner's property made by Hagenah and Erickson, based on the average level of labor and material prices for the five-year period ending December 31, 1921, testified to by Mr. Dorszeski. It shows as follows:

	Repro- duction cost new	Reproduction cost new less depreciation
Total physical property.....	\$21,523,898	\$20,535,543
Working capital made up of \$100,000 materials and supplies and \$135,000 working cash.....	235,000	235,000
Water rights.....	500,000	500,000
Going concern value.....	2,000,000	2,000,000
Total property.....	\$24,258,898	\$23,270,543

Exhibit No. 7 is an inventory and appraisal of the property of petitioner made by Hagenah and Erickson, explained by Mr. Dorszeski, based on the labor and material prices as of October 1, 1922. It shows as follows:

	Repro- duction cost new	Reproduction cost new less depreciation
Total physical property.....	\$20,359,935	\$19,447,193
Working capital.....	235,000	235,000
Water rights.....	500,000	500,000
Going concern value.....	2,000,000	2,000,000
Total property.....	\$23,094,935	\$22,182,193

In summarizing his evidence, Mr. Dorszeski gave it as his opinion that the value of petitioner's property today would most fairly be [fol. 268] represented by an appraisal based on the average of prices for the ten-year period ending November 30, 1922, and that such total value would be summarized as follows:

	Reproduction cost new	Reproduction cost new less depreciation
Total physical property	\$18,084,268	\$17,285,172
Materials and supplies	100,000	100,000
Working cash	135,000	135,000
Going value	2,000,000	2,000,000
Water rights	500,000	500,000
Cost of reproduction	\$20,819,268	
Fair value as of today		\$20,020,172

Exhibit No. 10 is an appraisal of the property of petitioner made by Sanderson and Porter, explained by Mr. Elmes and Mr. Vogelback, based on prices as of October 1, 1922. It shows as follows:

Bare physical value \$19,087,560

The above total includes materials and supplies, but does not include cash working capital, going value, water rights, etc.

Exhibit No. 11 is an appraisal of the property of petitioner made by Sanderson and Porter, explained by Mr. Elmes and Mr. Vogelback, based on the average level of labor and material prices for the ten-year period ending December 31, 1920. It shows as follows:

Bare physical value \$16,169,257

The above total includes materials and supplies, but does not include cash working capital, going concern value, water rights, etc.

Mr. Elmes, in summarizing his evidence and the result of the work of his firm, testified that in his opinion the appraisal, including materials and supplies based upon the prices as of October 1, 1922, amounting to \$19,087,560, most nearly represented the actual present value of the physical property. He testified further that in his opinion the average of prices for the ten-year period ending December 31, 1921, would be the minimum basis that could fairly be considered and that the total value of the whole property based upon such figures would be as follows:

[fol. 269] Bare physical value April 1, 1922.....	\$16,742,095
Additions to property April 1, 1922 to October 31, 1922	214,863
Working capital	267,312
Water rights and going concern value	2,355,050
Fair value today	\$19,579,320

There is set forth below, first, the summary of the appraisal No. 1 of the physical property of petitioner by the staff on the basis of 1912-21 prices, and, second, the summary of the appraisal not heretofore mentioned of Sanderson and Porter on the basis of the same ten-year average prices. Hagenah and Erickson did not submit a complete appraisal on this basis, but the evidence of Mr. Dorszeski shows that his appraisal on the same basis would total approximately the same as that of Sanderson and Porter. The summaries referred to are as follows:

Commission's Summary

	1912-1921	
	Cost of Re-production	Present value
A. Land	\$2,949,438	\$2,949,438
B. Transmission and Distribution...	5,849,718	5,631,141
C. Buildings and Misc. Structures...	2,165,710	1,977,506
D. Plant Equipment	2,260,117	1,932,601
E. General Equipment	141,752	95,976
F. Paving	99,884	96,887
15 Per Cent (see note)	2,019,993	1,902,532
H. Materials and Supplies	108,703	102,997
Total	\$15,595,318	\$14,689,078

NOTE—15 per cent allowed on the total of all items exclusive of materials and supplies to cover engineering, superintendence, inter-

et during construction, taxes during construction, fire and liability insurance, small omissions of inventory, contingencies, etc.

Sanderson and Porter Summary

	Production cost, 10-year average, 1912-1921
Land	\$2,923,291
Buildings, Fixtures and Grounds	1,485,657
Pumping Station Equipment	1,091,265
Collecting Aqueducts, Intakes and Supply Mains...	1,685,511
Purification System	711,100
Distribution System	6,099,362
Furniture and Fixtures	26,281
Utility Equipment	19,726
[fol. 270] Shop Equipment and Tools	35,505
Distribution Tools	24,700
Laboratory Equipment	11,755
Miscellaneous Equipment	13,779
Non-operating Property	80,185
	<hr/>
Material and Labor	\$14,208,117
Additional Structural Costs—17 per cent.....	2,415,380
	<hr/>
	\$16,623,497
Materials and Supplies	118,598
	<hr/>
Bare Physical Value	\$16,742,095

No allowance has been included in the above for Cash Working Capital.

No allowance has been included for Going Concern Value.

No allowance has been included for Water Rights.

No allowance has been included for Development or Promotional Expenses, or the Legal, Engineering and Administrative Expenditures incurred preliminary to construction, costs of financing, including Bankers' and Brokers' Remuneration, Marketing Securities and Bond Discount.

The comparable totals of the appraisals of the physical property by the different engineers on the basis of 1911-20 prices is set out below. It is necessary to make some adjustments in order to arrive at these figures for the reason that Mr. Dorszeski's total as shown by Exhibit No. 5, does not include materials and supplies, which are included in Mr. Carter's appraisal, at \$102,997. Also, Mr. Carter's appraisal includes \$130,000 for overflowage rights, which are not included in the appraisals of the physical property by either Mr. Dorszeski or Mr. Elmes. This item is computed as a part of the water rights by both Mr. Dorszeski and Mr. Elmes, but the Commission believes it should be included as a part of the land value. So that each of the totals shown below includes materials and sup-

plies, and also the item of overflowage rights. In each case, the cost of reproduction less depreciation is shown except as to Mr. Elmes' figures which are cost of reproduction:

Carter No. 1	\$13,979,744
Carter No. 2	14,307,428
Dorszeski	16,253,453
Elmes	16,299,257

The comparable totals of the appraisals of the physical property by the different engineers on the basis of 1912-21 prices is set out below. Mr. Dorszeski's figure is an estimate, he having testified that [fol. 271] his total on the 1911-20 basis should be increased by 10 per cent (presumably on all the items except land) in order to arrive at the 1912-21 total:

Carter No. 1	\$14,689,078
Carter No. 2	15,039,700
Dorszeski	17,433,169
Elmes	16,872,095

The comparable figures on going value and water rights by the different engineers are as follows:

Carter (does not submit figures)	
Dorszeski—Going Value	\$2,000,000
Water rights	500,000
Elmes—Going value and water rights	2,355,050

The comparable totals on the whole fair value of the property by the different engineers are as follows:

Carter (does not submit a value of the whole property) ..	
Dorszeski	\$20,020,172
Elmes	19,579,320

The following statement shows the comparable figures on the general office land and buildings on Monument Circle as appraised by the different engineers:

	Cost reproduction	Present value	Land alone
Staff	\$330,154	\$325,043	\$296,640
Dorszeski	326,178	320,302	296,800
Elmes	331,872		296,800

The following statement shows the comparable figures on the cost of construction of the canal, excluding structures—that is, aqueduct, bridges, flumes, etc.:

		Increase over staff
Staff	\$568,288.00	.....
Dorszeski	696,931.00	.....
Elmes	673,904.00	.....
Mansfield	798,801.91	\$230,514
Scott	847,456.00	279,168

NOTE.—Staff figure does not include puddling bottom of canal, nor does it include cleaning and grubbing. These two items in Dorszeski's figure amount to \$68,049. They are not separated in the other figures.

The following statement shows the total land value as appraised by the different engineers:

[fol. 272] Staff	\$2,819,438
Dorszeski	2,923,291
Elmes	2,923,291

The following statement shows the comparable totals of the value of the Riverside land as appraised by the different engineers and real estate men. The figures submitted by Mr. Dorszeski and Mr. Elmes represent the appraisal of Mr. Appel which was accepted by petitioner's engineers. Mr. McCloskey was a witness for petitioner at the hearing.

Staff	\$556,030
Dorszeski	727,430
Elmes	727,430
McCloskey	816,156

Something has been said in this case about the remarkably high per cent condition of the property as reported by both the staff and the engineers of petitioner. It is true that the per cent condition of a considerable number of other water properties has been found by the staff to be lower than the per cent condition of petitioner's property. Under the evidence in this case there is no reason to believe that the per cent condition of petitioner's property as reported by the staff is in anywise too high.

Structural Overheads

(3) The engineering department of the Commission has included in the appraisal of the physical property of the petitioner 15 per cent for overhead expenses of construction, stating in the appraisal that the 15 per cent is allowed on the total of all items exclusive of materials and supplies and covering engineering, superintendence, interest during construction, taxes during construction, fire and liability insurance, small omissions of inventory, contingencies, etc. The great weight of authority, both of courts and commissions, recognize that structural overheads, which term includes the items above mentioned, is a necessary element of the cost of any property. It is not profit in any sense, but it is physical cost which can not be allocated to the separate units and which is, therefore, treated in a lump sum, using some percentage of the cost of the remaining property. It is not an intangible, but is an actual tangible part of the cost of the physical property. There are certain expenses inevitable in the construction of a property which are necessarily and properly part

of its cost, but which are not capable of physical identification after the completion of the construction work. These expenses can not be covered in the estimate of cost of reproduction by the application of specific unit prices. Their nature is such that they attach to the whole or a large part of the property rather than to any particular [fol. 273] unit. These overhead charges in one form or another have been allowed in practically all valuations. Commissions have recognized their propriety and courts have endorsed their allowance. The subject was discussed by the United States Supreme Court in the case of *Des Moines Gas Company*, found in U. S. 238, page 153, where the court said:

"In reaching the physical value of the plant in question, by the process of reproduction, it is necessary to bear in mind that the present value thereof represents much more than the machinery therein, the labor of installing and constructing them and putting them in place to perform their various functions ready for the manufacture and distribution of gas to its consumers. Were the city of Des Moines without such a plant, and such a one as the complainant now owns was proposed, it would be found that much more than the cost of labor and material would be expended."

* * * * *

"Such expenditures are termed overhead charges."

Reference may be had to the following cases where allowances of 15 per cent or more were made: (Citing numerous cases.)

Accrued Depreciation

(4) It has been argued by Mr. Elmes and others with a good deal of reason that a plant that is in 100 per cent operating condition as this one is; that is perpetually maintained in that condition; and that is furnishing 100 per cent service, should not be depreciated; that parts of a plant which are furnishing 100 per cent service should be valued on the basis of new parts; that no theoretical depreciation should be charged off or subtracted from the total cost of reproduction new.

There is considerable merit in such a position, but the rule laid down in the valuation cases hereinafter cited seems to be that where the cost of reproduction new either on average prices or current prices is used as a basis for the value, that the accrued depreciation should be deducted and the cost of reproduction new less the accrued depreciation plus the intangible elements be considered the value.

There is no reason why a public utility property should not be valued in the same way that any ordinary private property is valued, and in the valuation of an ordinary property the accrued depreciation would be considered and deducted although the property might be in 100 per cent operating condition.

Exhibit No. 12, prepared by Sanderson & Porter, sets out in detail the items of cost that necessarily would be incurred in the rehabilita-

tion of the property of petitioner, amounting in the aggregate to [fol. 274] \$411,335. These engineers say that the property is in practically 100 per cent operating condition and, in fact, affirm that it is probably in the most excellent condition of any similar property in the country. For this reason they believe that no deductions should be made for accrued depreciation. As evidence of its fine operating condition and in order to disclose information that would probably be desired by a purchaser of the property, they set out the sums mentioned in Exhibit No. 12 that might be expended in order not only to make the property as good as new but to make it appear as good as new.

Tax Assessment

(5) The assessment of petitioner's property by the State Board of Tax Commissioners is in evidence. It shows an assessment of about \$10,000,000. This is proper evidence, but not of controlling weight, first, because the tax board had no value upon which to base an assessment; second, because the tax board does not arrive at a value for tax assessment purposes in the manner prescribed by the Commission Act.

Canal

Much has been said in this and former hearings about the canal property. The engineers have appraised it and there is little fault to be found, at least with the reasonableness of the appraisal of the staff. It is not contended that the canal property is now of a value substantially different from that reported by the engineers. It is known that the canal property was acquired by petitioner many years ago for a sum far less than its value today, which is not disputed. It is asserted that the value of this item of property is the price paid for it fifty years ago. Such theory of value leaves out of consideration the fact that the law requires the Commission to find the value of the property now, and not its value a generation or more ago.

Peculiarly enough, it is never contended that the owner of any other sort of property should be denied the benefit of the full enhancement of value which may have occurred. The value found herein recognizes the enhancement of value of real estate to substantially the full extent of the fact, but as to the remainder of the property the enhancement of value is recognized to a limited extent only. In some items it is not recognized at all. Some items added to the property in recent years are appraised and included in the total found at less than actual cost.

The Commission had the following to say about the canal in Cause No. 1400:

(What the Commission said in Order 1400 about the canal is set out under the head of "Canal" in Complainant's Exhibit 12, supra, and reference is here made to that statement for brevity.)

(6) It is said that the property on Monument Circle, now used by petitioner for general offices, was purchased originally by the Water Company, some thirty years ago, for about \$35,000, and that such property is now valued by each of the engineers at \$296,640. There is no contention that the engineers have placed an excessive value on the property, the evidence being that each engineer has used a conservative figure. The contention seems to be that the original cost figure of \$35,000 is all that should be allowed in this case. Just why public utility property should be considered worth no more than its original cost is not explained. Neither is it explained why utility property should be singled out from all other classes of property and its value considered to be what may have been paid for it at some distant day in the past. The propriety of including the whole value of the Circle property in a value for rate-making purposes may be seriously questioned and will be questioned when the occasion arises, because it is doubtful if it is all necessarily used and useful for the convenience of the public. The propriety of including the whole value of the Circle property, whatever that may be, in this total can not be questioned. It is a part of petitioner's property and the law required that it be valued as of today.

Additions Since April 1, 1922

The evidence shows that from April 1, 1922, the date when the inventory of petitioner's property was made, to October 31, 1922, additions to the property properly chargeable to capital account have been made aggregating \$215,000. This amount will be included in the total value hereinafter found. Petitioner contends that 15 per cent should be added to this \$215,000 for structural overheads. If these items of property had been included in the appraisal on the basis of the ten-year average of prices, then it would be logical to include overheads, otherwise not. It is likely that this actual cost basis for these items added during 1922 is considerably higher than the ten-year average plus overheads.

Cost of Reproduction New Basis

(7) The rule for arriving at the value of a property of this kind and character, as defined by the courts, seems to be that the controlling element shall be the cost of reproduction at the time of the inquiry less the accrued depreciation. That is to say, that the value of a property at the time of the inquiry is what it would cost to reproduce it.

If the property were to be valued on a certain day for a certain purpose, without considering what the effect might be in the future, the rule would be good. Although the law provides for the revaluation of public utility properties from time to time, a value fixed should have a measure of permanence. If it were known that the present price level would continue indefinitely in the future and that [fol. 276] the purchasing power of the dollar would remain the same,

then the cost of reproduction at the time of the inquiry would be the true measure of value.

It is the intention of the law that a value fixed in a proceeding of this character shall be fairly accurate for a number of years in the future, and especially is this true when it is intended to issue long term securities against such property. It is likely that there will be some reduction from the present price level and the Commission does not believe the use of present day prices would be justifiable or safe or that the law requires the use of such prices without consideration of other important elements. The value is being fixed not for today, but for a reasonable period in the future. Consequently, the reasonableness of the use of average prices is apparent.

(8) It is extremely doubtful if at any time within the next ten years prices will be as low as the prices used as a basis for this valuation. It is as certain as anything can be that prices will not revert to the prewar level for many years, and it is equally certain that the average prices for the next, say, five years will be at least as high as the ten-year average used in this valuation.

The great weight of authority of both federal and state courts has established the rule that the value of the property for rate-making purposes is to be determined by the cost of its replacement or what is commonly termed "cost of reproduction" plus a reasonable allowance for going value and operating capital. Cost of replacement or cost of reproduction does not, however, necessarily mean the use of present-day prices to the exclusion of all other considerations when present-day prices are believed to be abnormally high or low.

The following are a few of the cases which support the above propositions: (Citing numerous cases.)

Enhancement of Value

The owners of a public utility property are entitled to the benefit of any enhancement of value that may have occurred. That rule holds good in the valuation of farm lands, factories and every other sort of business or property and there is no reason why public utility property should be made an exception to the rule. On the contrary, there is every reason why that element should be considered for the benefit of both the consumer and the owners.

(10) The term "Value," which is generally so loosely used, has been defined as "The measure of the relation of human needs to their source of supply, usually measured in money." The term [fol. 277] "Value" must not be confused with the terms "Cost" or "Investment." In this case the Commission must say "How many dollars represent the value of this property at this time," and not "How many dollars represent this value at some time in the past." So-called "enhancement of value" may occur, first, when there is no change in the purchasing power of the dollar by reason of various circumstances such as the natural increment of land values in a growing city, and second, by a decrease in the purchasing power or value of the dollar. Both factors affect this property. The intrinsic or

inherent value of a certain kind of pipe ordinarily does not change. The pipe has the same strength and will perform the same function that similar pipe would ten years ago. The number of dollars required to represent that value does change. The value or purchasing power of a dollar must be recognized in this matter, as it is recognized every day in all the affairs of life. If there has been an enhancement of value measured in dollars, it is material. It is established by the evidence, and is a matter of common knowledge, that there has been such an enhancement of value during the course of the last few years. In other words, it takes a different number of dollars to measure the value of a property now than it did ten years ago, although the inherent value may be the same. It is urged that the value of a public utility now is the number of dollars actually invested in the property. There is no reason why such a rule should be applied to public utility property, when it is never applied to the measuring of the value of any other kind of property. Any individual would be extremely aggrieved if it were suggested to him that the value of his farm or factory now should be measured and fixed on the basis of the dollar of ten or twelve years ago. It is not done, and the courts from the Supreme Court down have uniformly held that the purchasing power of the dollar at the time of the inquiry is material—that is to say, that the cost of reproducing the property at the time of the inquiry is an important element to be considered.

It takes \$1.60 now to purchase what \$1.00 would buy in 1913, and it is material to consider that fact in arriving at the value of a public utility property.

Price Level

The United States Department of Labor Information and Educational Service has given wide publicity to a monograph written by Irving Fisher, professor of political economy, Yale University. The fundamental thought is that there will be no material dropping of prices. He says:

[fol. 278] "The fundamental practical question confronting business men is whether the general level of prices is going to fall. In my opinion it is not going to fall much, if at all. We are on a permanently higher price level and the sooner the business men of this country take this view and adjust themselves to it, the sooner will they save themselves and the nation from the misfortune which will come if we persist in our present false hope."

* * * * *

"Business men should face the facts. To talk reverently of 1913-1914 prices is to speak a dead language today. The buyers of the country, since the armistice, have made an unexampled attack upon prices through their waiting attitude, and yet price recessions have been insignificant. The reason is that we are on a new high-price level, which will be found a stubborn reality. Business men are going to find out that the clever man is not the man who waits, but the one who finds out the new price facts and acts accordingly."

The chairman of the Harvard committee on economic research recently issued a report wherein it is predicted that there will be no drop in prices to the prewar level for at least ten years. The report covers the situation in great detail with elaborate and exhaustive reasoning, supported by much data. Such a report, while not conclusive, is, of course worthy of consideration, especially when its conclusions are substantiated by other authority.

(11) In the early part of 1922 it was generally believed that material and labor costs, which were then lower than the peak of 1920, would continue to go down for several years until a level approximating that of prewar times would prevail. This view was not shared by many students of economics nor by business men closely familiar with existing conditions, who predicted that substantial reductions could not be expected and that the tendency would be up rather than down. This prediction has been verified. Prices of material used in the building and maintenance of this property are higher now than six months ago. The iron and steel industries are enjoying greatly increased business and a general increase of about 20 per cent in wages has been made. The increase in the wage scale has been reflected in the increased cost of iron pipe and other material. There seems to be no prospect of lower prices for such products. However much we may deplore the situation, the fact is that prices are on a permanently high level as compared with prewar times and there is no likelihood whatever that a price level anywhere near approximating the low level of prewar times will prevail for many years in the future.

[fol. 279]

Present Value v. Original Cost

(12) It is commonly held that in arriving at the value of a utility property its original cost is an element to be considered. While this is true the rule is certainly established and unquestioned that the value to be found shall be the value at the time of the inquiry and not what the property may have cost.

Going Value

(13) A good property has an intangible value or going concern value over and above the value of the component parts of the physical property. Numerous theories about going value and about the method of computing the amount of it are available in the text books, and the long line of court and commission decisions on the subject. In this case, the cost of the physical property can be approximated, the cost of reproducing it on various bases is in evidence, and it is not difficult to arrive at a fairly correct sum to represent the physical or bare bones value. Any reasonable man with a knowledge of this property and the local conditions would unhesitatingly affirm that it had a value far in excess of the value of the pipe, buildings, grounds and machinery. Consider its earning power with low rates, the business it has attached, its fine public relations, its credit, the nature of the city and the certainty of

large future growth, the way the property is planned and is being extended with the future needs of the city in view, its operating efficiency and standard of maintenance, its desirability as compared with similar properties in other cities and with other utilities of comparable size in this city. These things make up an element of value that is actual and not speculative. It would be considered by a buyer or seller of the property or by a buyer or seller of its securities.

The United States Supreme Court has defined the term "going value" as follows: "The value which inheres in a plant where its business is established as distinguished from one which is yet to establish its business." (*Des Moines Gas Company v. Des Moines*, 238 U. S. 153.)

The Supreme Court of the United States has laid down the rule, in unmistakable language, that "going value" is a property right the existence of which in an established business is self-evident, and a failure to allow to the utility a fair return on such going value amounts to confiscation.

Working Capital

(14) A utility is entitled, under the law, to have included in the value of its property an allowance for working capital, which is materials and supplies on hand, if such amount is reasonably necessary, and the average amount of cash which it is reasonably necessary for it to have available throughout the year in order that [fol. 280] it may meet its cash requirements in a business-like manner. The part of the working capital consisting of material and supplies can be, and has been, accurately found and appraised by the engineers, and is set out in the appraisals. The amount of working cash that should be included in the total value is for the Commission to determine from the evidence. Consideration should be and has been given to the revenues of the Company, the times of collections of such revenues, the annual and monthly expenditures of cash, and the average amount of cash which the utility in the conduct of its business has found it necessary to keep on hand.

Water Rights

Petitioner has acquired and now owns the right or privilege of taking and using all the water in White River and Fall Creek for the purposes incident to its business. This right is an extraordinarily valuable part of the whole value of this property. The right to use the water of White River has saved the Water Company and likewise the citizens of Indianapolis millions of dollars over what it would have cost to secure sufficient water for the needs of the city in any other possible way. If there were no river, or if the water had been acquired by other interests for other purposes, it would have been necessary to supply the city entirely from wells, that being the only other practicable available supply. It is doubtful if a sufficient supply of water could be obtained from wells, and

it follows, of course, that the city in all probability would not have been established if the river had not been here.

While it is undisputed that these water rights do add substantially to the value of this property, the courts and commissions are not in accord as to the method that should be used in computing the value in dollars. In many cases concerning the value of hydro-electric properties, the value of the water rights has been fixed by computing the difference between the cost of generating the current by the available water supply and the cost of generating the same amount of current by steam, and then capitalizing such difference in cost at 8 per cent. The case of a hydro-electric plant and its water supply and the case of this Water Company and its water supply differ in that the electric plant has the right to the use of the water for the generation of power but the water is not taken from the stream or in anywise consumed and is available for other purposes besides the hydro development. The Water Company may and does at times take all the water from the river for its own purposes and none of it necessarily is returned to the stream or is available for any other use.

There is another factor that must be taken into consideration, which is the public's claim or title to this water. The river with its [fol. 281] water shed was here before there was any city or Water Company. The water is precipitated over the water shed of this river and comes out of the ground from springs and so feeds the river which flows down to the city for the benefit of all the people. The Water Company can not claim all the benefit arising from the presence of the river, for the presence of the river is a natural advantage which belongs to all of the citizens and which was largely influential in the location of the city at this point.

Nevertheless, the Water Company is entitled to share in the benefit of this valuable possession by reason of the fact that by its foresight, ingenuity and initiative it has taken this stream of uncertain flow of impure water and has converted it into an immense asset both to itself and to the public. This has been done by a system of machinery, dams, gates, canals and other structures so that the water flows by gravity for a distance of some seven miles to the filtration beds, which are advantageously located, where the water is purified. This whole plant, more fully described elsewhere, has been planned and constructed with an ingenuity and economy and foresight for the future needs of the city that is unequaled under any similar circumstances anywhere in the country.

Indianapolis is probably the most unfortunately situated of any large city so far as the natural available water is concerned, yet the possibilities of an insignificant stream flowing through a thickly-populated countryside have been so thoroughly developed that Indianapolis now has, and if it doubles in population will have, an ample supply of potent water at a cost much below the cost in many other cities more favorably located. This development of its water rights, which has been accomplished by the water Company at times with extreme difficulty, does actually largely increase the value of the property.

(16) The engineering department of the Commission appraised petitioner's land at \$2,949,438, including therein \$130,000 for overflow rights along White River and Fall Creek. The petitioner has acquired and now owns the right to overflow about one thousand acres of land above Broad Ripple on White River and about 300 acres of land above the city on Fall Creek. This being land not owned in fee simple by petitioner, this overflow right, which is a tangible and actual property right, has been appraised by the Commission's engineers at \$100 an acre, which is doubtless far less than such rights could be acquired for at this time. Petitioner's engineers include the value of these overflow rights in the total fixed by each of them for water rights and do not include such sum in the total land where it appears more properly to belong.

[fol. 282] Petitioner produced as a witness Mr. McCloskey, an experienced real estate man, who testified as to the value of certain real estate owned by petitioner in the vicinity of the canal and filtration system. This witness placed a value upon the certain parcels of land described in his reports \$91,726 more than the value placed on such land by Mr. Appel, who appraised all of the real estate of petitioner and whose totals are accepted by and set forth in the appraisals of petitioner's engineers. It appears that these parcels of land described by Mr. McCloskey do have a value for switching and factory purposes, which element was not considered by Mr. Appel or by the Commission's engineers. It is certain, at least, that these lands were appraised by all the engineers at a conservative figure. An examination of the records, and an inspection of most of these lands by members of the Commission and its staff in person, leads to the conclusion that the land of petitioner which is intended to be appraised at its market value is, in fact, appraised by each of the engineers as a whole at total figures about which there can be little question.

Property Not Used and Useful

It will be observed that the appraisals of the Commission's engineers show two general classes of property—operative and non-operative. When a property is valued for rate-making purposes, the total value used as a base for rates should include only property used and useful for the convenience of the public. This case does not involve rates, so the question of a proper division of the property between that used and useful and that not used and useful for the convenience of the public need not be gone into at this time. It would serve no useful purpose to make such a division now. The work would have no permanent value because the circumstances probably would be very different in a year or two. When the question does arise, a special study and investigation will be necessary concerning the non-operative property reported by the staff, amounting to \$700,000 or more, the part of the whole intangible value that should attach to such property, the character of the Monument Circle office property amounting to \$300,000 or

more, as to whether such property is necessarily used and useful for the convenience of the public, and the same consideration given to various other items. Without in anywise determining the question at this time as to any item or items, it may be said that of the total property herein found a million dollars or more is of questionable character so far as its inclusion in a value for rate-making purposes is concerned.

It is a matter of common knowledge that the Indianapolis Water Company is one of the best public utility properties in the United States. Its operating efficiency and maintenance is practically 100 per cent. It is ideally located, both as to its city and as to location of the plant in the city, and advantage is taken of every natural resource. It extends from the country north of Broad Ripple to Irvington on the east and to the city limits on the south and [fol. 283] west. The canal is perfectly adapted to the purposes for which it is used. The company has acquired prior rights to all the water in White River and Fall Creek. It has the right to overflow large areas of land if necessary in the conduct of its business. It owns about a thousand acres of land within the city limits of Indianapolis. Its capacity is amply sufficient for the needs of the city and the system is being readily expanded to care for the future demands, plans already being made for a population of half a million. It has 53,000 consumers and 47.5 miles of mains. There are practically no complaints from private consumers or from the city as to the purity of the water, its sufficiency or pressure. The rates are reasonable and the bulk of the consumers are on flat rates so that they may use an unlimited amount. Its relations with the city and with the public are happy and mutually helpful. Nearly \$2,000,000 of capital additions have been made since 1917, and several million more will be made in the near future. Its financial standing and credit are excellent, so that it does its financing on the most favorable terms. These and various other favorable things that might be said of the property do add substantially to its value and are considered by the Commission.

(17-18) By adopting the appraisal on the basis of the average prices of labor and material for the ten-year period ending with 1921, the Commission recognizes the influence of the original cost factor. It is believed that the fair original cost of the physical property was from 12 to 20 per cent less than the \$14,904,000 used as a basis herein. On the other hand, the evidence shows that the cost of reproducing the physical property today would be from \$4,500,000 to \$5,000,000, or from 30 to 35 per cent more than the said sum of \$14,904,000. It should be borne in mind also that today's costs are substantially less than the high war prices. The ten years ending with 1921 includes four and one-half or five years of what are called high war prices and five years of exceptionally low prewar prices. There is no doubt that the element of original cost has been recognized sufficiently. There is doubt as to whether or not the element of the cost of reproduction new today has been given sufficient weight. In view of all the facts and circumstances

surrounding this property, it is believed that the value found herein is conservative, fair and reasonable to petitioner and to the people of Indianapolis.

The appraisals submitted by the engineering department of the Commission represent six months of hard and painstaking work by Mr. Carter, the chief engineer, and his assistants. The manner of its accomplishment and the difficulties surmounted constitute an achievement of great merit, especially when it is remembered that the work was done while many other important jobs were pressing, and being done. The engineering firms employed by petitioner are each of national reputation and unquestioned standing. There are substantial differences between the appraisals of petitioner and those of the staff even when the same basis of prices [fol. 284] is used. These are honest differences between competent engineers and easily explained. They arise, first, because of difference of opinion as to the application of the cost of reproduction theory to the ten-year period prices; second, because of difference in judgment as to certain details of the work necessary to build or rebuild the property; third, because of difference in judgment as to the amount that should be allowed for structural overheads; fourth, because of difference in judgment as to the condition per cent of certain items of property. The staff in these things is generally somewhat lower or more conservative than the engineers of petitioner. These differences have been analyzed and explained in detail by all parties, and it is unnecessary to enter into an interminable discussion of them here. It is likely that a more full and detailed analysis of these differences and a careful weighing of the evidence would lead to a compromise figure somewhere between the two extremes. However that may be, the Commission is inclined to accept the report of its staff as a basis of value, believing it to be conservative and accurate.

Considering all the facts, including all the appraisals and the other evidence concerning the trend of prices, the Commission is of the opinion that in this case the average of prices for the ten-year period ending with 1921, the last full ten years available, most nearly represents the fair value of petitioner's physical property.

(19) In fixing the value of this property, the Commission will adopt as a basis for such valuation the appraisal of its staff on the average of prices for the ten-year period ending December 31, 1921, for the physical property. The land will be valued on the basis of its present market value. The overhead expenses of construction and the amount that the property has depreciated or its present condition will be taken as set forth by the Commission's engineers. The inventory of the Commission's engineers will be accepted. The amounts allowed for water rights, going value and working capital will be such as the evidence establishes to be conservative and reasonable.

In all these various phases of the case, the Commission has been guided by the prevailing decisions of the Supreme Court of the United States, and it should be said that there are decisions on practically every point involved in this case.

(20) In adopting the appraisal made by the use of the average level of prices for the ten-year period ending December 31, 1921, for the purposes of this case, this Commission does not commit itself to use that basis in every future valuation proceeding. Each valuation case must be decided upon the particular facts involved, and no certain yardstick can be used to measure the value of all properties. Economic conditions affecting value have materially changed in the last year and may change radically in the future, so that some other higher or lower basis may be found more nearly just. The law wisely provides for revaluations from time to time. Furthermore, no two properties are alike in location, public relations, saturation, rates, earning power, growth, future prospects and the various other elements affecting value, so that each must be studied by itself and its value fixed accordingly.

(21) It will be observed from the different summaries of the appraisals submitted in evidence that the Commission's engineers do not say or attempt to say what the value of the property may be. They simply submit to the Commission as a part of the evidence appraisals of the physical property made on the bases indicated. They do not include in their appraisal anything for going value, water rights or working cash capital, those being elements of value which should be included in the total by the Commission itself in such amounts as the evidence may establish. The Commission itself is required to find and fix the value of the property in accordance with the evidence and in the manner prescribed by the statutes and the decisions of the courts.

In the fixing of this value, the Commission is bound to and has taken into consideration so far as the evidence discloses such facts the cost of reproducing the property at the time of the inquiry, the probable cost of reproducing it within the next few years, the cost of reproducing it on the basis of average prices that have existed in the past, the trend of prices in the past and the probable trend in the future, the original cost of the property, the prudent investment in the property, the amount of working capital necessary in the conduct of the business, its going value, its water rights, its operating efficiency, its standard of maintenance, the kind and character of its service, the business it has attached and in prospect, its plans for the future, its ability to care for the growth of the city and the needs of its patrons, the location of the property and character of the city, its relations with the public and with the city, the reasonableness of its rates, its present and probable future earning power, and any other facts appearing in the evidence or within the knowledge of the Commission that an ordinarily prudent man would take into consideration in arriving at the value of any large private business property, all in order that justice may be done to the whole public, including the persons who have invested their savings in the upbuilding of the enterprise.

The Commission having given due consideration to the facts as disclosed by the records and the evidence, and to the law, as

hereinbefore mentioned, now finds and determines the value of petitioner's property excluding capital additions subsequent to October 31, 1922, to be as set forth in the following statement:

[fol. 286] (22) Commission's engineering staff's appraisal No. 1, cost of reproduction less depreciation, on basis of average level of labor and material prices for the ten-year period ending December 31, 1921, including materials and supplies . .		\$14,689,000
Capital additions from April 1, 1922, to October 31, 1922, at actual cost		215,000
Total physical property		\$14,904,000
Going value and water rights, 9½ per cent		1,416,000
		\$16,320,000
Working cash capital		135,000
Total value		\$16,455,000

It is ordered by the Public Service Commission of Indiana, that the value of the property of petitioner, the Indianapolis Water Company, excluding capital additions subsequent to October 31, 1922, be, and it is, fixed at \$16,455,000.

It is ordered, that within twenty days from the receipt of this order, petitioner shall pay to the treasurer of state, through the secretary of this Commission, the sum of \$8,737.60, expenses incurred by the Commission in the investigation of this cause.

All concur.

Approved January 2, 1923.

Attest:

L. C. Loughry, Secretary.

[fol. 287] COMPLAINANT'S EXHIBIT No. 14

This exhibit, opinion and order of the Public Service Commission No. 7080 is fully set out in the Transcript as Exhibit B and B2 to the bill of complaint and reference thereto is hereby made to avoid duplication in the record.

Jirgal's Statement of Operating Results for Years 1922, 1923, and First 3 Months of 1924 and of Assets, Liabilities, and Taxes, Prepared from Investigation of Books and Records of Indianapolis Water Company

Particulars	Year ended December 31		Three months ended Mar. 31, 1924
	1922	1923	
Operating revenues.....	\$1,696,563.97	\$1,840,971.20	\$522,730.05
Operating expenses and taxes.....	791,406.04	874,524.33	242,462.31
Net operating revenues before depreciation.....	\$905,157.93	\$966,446.87	\$280,267.74
Non-operating revenues.....	28,034.05	25,531.16	6,052.16
Gross income before depreciation.....	\$933,191.98	\$991,978.03	\$286,319.90
Depreciation provision.....	87,206.35	89,610.12	33,783.05
Gross income after depreciation.....	\$845,985.63	\$902,367.91	\$252,536.85
Deductions from gross income (Interest and other fixed charges)....	295,177.00	408,496.34	111,536.79
Net income.....	\$550,808.63	\$493,871.57	\$141,000.06
Disposition of net income:			
Preferred stock dividends.....	69,709.84	34,595.00	.....
Common stock dividends.....	400,000.00	400,000.00	.....
Amortization of discount on preferred stock.....	6,000.00	3,000.00	.....
Total of above items.....	\$475,709.84	\$438,595.00	.....
Balance to surplus.....	\$75,098.79	\$55,276.57	\$141,000.06

Additions to Property

During the period from May 31, 1923 to March 31, 1924 the net additions to physical property amounted to \$844,476.17. These net additions are set forth by periods in the following statement:

From May 31, 1923 to December 31, 1923.....	\$732,564.38
From January 1, 1924 to March 31, 1924.....	111,911.79
Total net additions to March 31, 1924.....	<u>\$844,476.17</u>

Every facility for examining the books and records was afforded our representatives.

Very truly yours, Arthur Anderson & Co., Certified Public Accountants.

(Here follows continuation of Complainant's Exhibit No. 15, marked side folio pages 289 and 290)

[fol. 291] COMPLAINANT'S EXHIBIT 16 (JIRGAL'S)

Statement of Additional Revenue Which Would Have Been Derived for the Year Ended December 31, 1922, Had the Rate Schedule in Order 7080 Been Effective During that Year

Year Ended December 31, 1922

Particulars	Revenues		Increase
	Per books	Under new rate schedule	
Operating Revenues:			
Commercial Sales—Metered...	\$608,046	\$711,249	\$103,203
Commercial Sales—Flat Rate..	788,916	798,832	9,916
Industrial Sales—Canal water..	25,825	25,825	.....
Municipal Fire Protection Service	240,056	294,732	56,676
Sales to Municipal Departments	6,000	25,000	19,000
Sales for Building Purposes...	26,597	26,597	.....
Fees for Shutting Off and Turning on Water	522	522	0
Miscellaneous Earnings.....	602	602	.....
	<u>\$1,696,564</u>	<u>\$1,883,359</u>	<u>\$186,795</u>

[fol. 289]

Assets

Property and Plant
Investments—Liberty Bonds

Depreciation Reserve Fund:

Cash
Loans made from depreciation reserve fund.....
Investments

Current Assets:

Cash
Special deposits
Bills receivable
Accounts receivable
Interest and dividends receivable.....
Material and supplies

Unamortized debt discount and expense.....

Prepaid Accounts and Deferred Charges:

Prepaid insurance
Prepaid taxes
Miscellaneous prepaid accounts
Appraisal expenses in process of amortization.....
Expenses in connection with rate case.....
Miscellaneous suspense items

Following the foregoing, this Exhibit contains 8 pages of details and

Balance Sheet, March 31, 1924

data, which, for the sake of brevity, are omitted from this transcript.

[fol.290]

COMPLAINANT'S EXHIBIT No. 15—Continued

Statement of State, County, and Local Taxes Showing Assessed Valuation, Rate, and Total Taxes Applicable to the Years Ended December 31, 1922, and 1923

Particulars	Year ended Dec. 31, 1922			Year ended December 31, 1923		
	Assessed valuation	Rate	Amount	Assessed valuation	Rate	Amount
Indianapolis, Center Township.....	\$8,125,180.00	\$2.40	\$195,004.32	\$8,943,418.00	\$2.48	\$221,796.77
Indianapolis, Wayne Township.....	186,610.00	2.63	4,907.84	241,714.00	2.70	6,526.28
Indianapolis, Washington Township.....	186,610.00	2.69	5,019.80	241,714.00	2.73	6,598.79
Indianapolis, Warren Township.....	186,610.00	2.64	4,926.50	241,714.00	2.68	6,477.94
Beech Grove, Center Township.....	93,460.00	2.43	2,271.08	120,857.00	2.62	3,166.45
Beech Grove, Perry Township.....	93,310.00	2.53	2,360.74	120,857.00	2.73	3,299.40
Center Township.....	195,450.00	1.34	2,592.22	241,714.00	1.72	4,157.48
Wage Township.....	93,310.00	1.24	1,157.04	241,714.00	1.38	3,335.65
Washington Township.....	1,256,450.00	1.39	17,520.22	1,571,141.00	1.12	17,596.78
Broad Ripple.....	215,920.00	2.65	5,721.88	120,857.00	2.73	3,299.40
Total above.....	\$10,632,910.00	\$2.272	\$241,481.64	\$12,085,700.00	\$2.286	\$276,254.94
Hamilton County.....	4,600.00	2.08	95.68	4,600.00	1.80	82.80
	\$10,637,510.00	\$2.271	\$241,577.32	\$12,090,300.00	\$2.286	\$276,337.74

FEEDER PIPE SYSTEM

Indianapolis Water Co.

Feeder Pipes 12" diameter and larger

Future Pipe Lines Shown Dotted

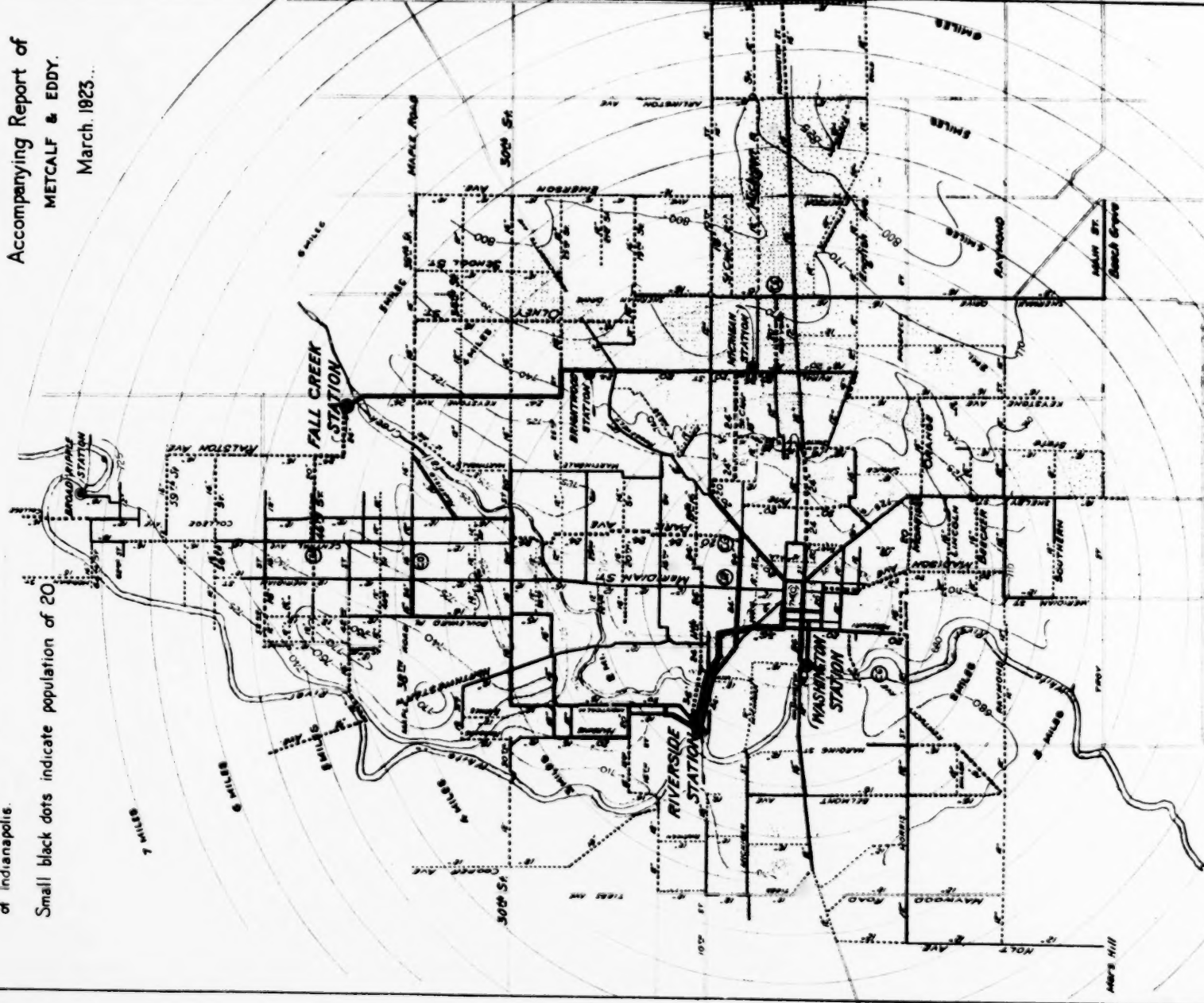
Basic Map Prepared by City Planning Commission
of Indianapolis.

Small black dots indicate population of 20

Accompanying Report of

METCALF & EDDY.

March, 1923.





[fol. 292] COMPLAINANT'S EXHIBIT 17 (JIRGAL'S)

Statement of Estimated Revenues for Year 1924

Particulars	Amount
Operating Revenues:	
Commercial Sales, metered	\$895,321
Commercial Sales, flat rate	859,402
Industrial Sales—Canal water	27,150
Municipal Fire Protection Service	320,503
Sales to Municipal Departments	24,297
Sales for Building Purposes	9,000
Fees for Shutting off and Turning on Water	431
Miscellaneous	835
Total Operating Revenues	<u>\$2,136,849</u>
Non-operating revenues	25,531

(Here follows Complainant's Exhibit 18, marked side folio page 293)

[fol. 294] COMPLAINANT'S EXHIBIT 19 (METCALF)

Study of Growth of City's Water System, with Tables

Summarized Betterments and Extensions.—The necessary betterments to be built within a future period of 15 years or thereabouts, have been outlined in the main under the several branches of the plant, commented upon herein. They are shown in summarized form in Tables 20 and 21, following.

The first is based upon a continuance of the present flat rate basis of selling water; the second upon the future adoption of the metered system and the introduction of meters, between the years 1924 and 1930, upon at least 80% of the services connected with the system.

Upon the flat rate basis the total cost of betterments is estimated at about \$10,300,000. Of this sum about \$3,740,000 will probably have to be expended within the next 3 to 5 years. The average rate of expenditure for the 15 year period will be slightly less than \$700,000 per year.

Upon the metered basis the total expenditure in the 15 year period is estimated at the round sum of \$7,900,000. Of this amount about \$3,200,000 will probably have to be spent in the next 3 to 5 years. The average rate of expenditure for the 15 year period will be about \$530,000 per year.

The metered basis, therefore, will effect a saving of about \$245,000 or at least 24% over the flat rate basis, and an annual saving of about \$170,000.

[fol. 295] The saving in cost of betterments and extensions incidental to the adoption of the metered basis of selling water (instead of the continuance of the flat rate basis) is not limited, however, to the cost of the structures. There will also be important saving in operating expenses, particularly due to reduction in the amount of coal burned, resulting from the smaller water consumption. This may be figured approximately at \$9 per million gallons of water saved. Some additional saving would be effected in labor wage scale, but the amount is likely to be increased by the change from 12 hour to 8 hour shifts.

Both of these schedules of betterments are based upon 1923 prices (see note below)

(with unskilled labor at 38.5¢ per hour; cast iron pipe at \$50 per ton; and with allowance of 15% for overhead, engineering, contingencies and interest),

and upon the assumption of the granting by the regulatory authorities of an equitable rate of return upon the fair value of the property, adequate to command the capital involved and to permit the company to continue the progressive policy of the past in making of the plant extensions and betterments.

Annual Betterments and Extensions, 1913-1922.—For purpose of comparison it may be interesting to show the actual cost of plant betterments and extensions in the past decade. In reviewing it the effect of the war in retarding development is to be remembered and that this retardation has involved deferred maintenance and deferred betterments and extensions which must be made good within the next few years if reasonable margins of safety in the plant are to be restored, as is highly desirable and if a high standard of service is to be maintained.

NOTE.—Unskilled labor is actually being paid from 45¢ to 50¢ (1923 and 1924) per hour, and the cast iron pipe for the extensions anticipated for 1924 but not yet ordered will probably cost about \$60 per ton. 4,300 tons ordered Dec. 23, 1923 @ \$50.10 and \$52.10
6"—16" 20"—30"

(Here follows continuation of Complainant's Exhibit No. 19, marked side folio pages 296 and 297)

Vol. 2

Tab

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[fol. 296]

COMPLAINANT'S EXHIBIT No. 19—Continued

Table 20.—Cost of Betterments Upon Flat Rate Consumption Basis at 1923 Prices, Including 15% Overhead, etc., Allowance

Betterment	1923	1924	1925	1926-1937	(1922-1937 inc.) = 15 years		
					Total	Average per year	Miles
1. Supply pipes	\$750,000	\$650,000	\$457,000	\$2,231,000	\$4,088,000	\$272,000	7.6
2. Distribution pipes	232,000	162,000	162,000	1,343,000	1,899,000	128,000	10.4
3. Total pipe system	\$982,000	\$812,000	\$619,000	\$3,574,000	\$5,987,000	\$400,000	18
4. Pumps (Centrifugal) at							
Fall Creek Sta.	40,000	.....	40,000	.....	80,000	.....	.....
5. Brightwood Booster Sta.	9,000	.....	.....	.....	9,000	.....	.....
6. Michigan Booster Sta.	16,000	.....	.....	.....	16,000	.....	.....
7. Broad Ripple .....	.....	7,000	.....	.....	7,000	.....	.....
8. Riverside Sta. (30 mgd.) in 1927	.....	.....	.....	80,000	80,000	.....	.....
8a. " " suction piping, extra .....	.....	.....	.....	45,000	45,000	.....	.....
9. Boilers at Fall Creek	19,000	.....	.....	.....	19,000	.....	.....
Coal handling app. & aux. Fall Creek	10,000	.....	.....	3,000	13,000	.....	.....
10. at Riverside .....	.....	.....	.....	19,000	19,000	.....	.....
11. Air Compressor, and aux., Riverside.	25,000	5,000	.....	20,000	50,000	.....	.....
12. Suction Reservoir, Fall Cr. Sta. begin 1923 .....	.....	230,000	.....	.....	230,000	.....	.....
13. Driven Wells and Pumps at							
Riverside Sta. ....	.....	.....	.....	50,000	50,000	.....	.....
14. Fall Creek Sta. (& piping)	5,000	7,000	.....	.....	12,000	.....	.....
15. Broad Ripple .....	.....	6,000	.....	.....	6,000	.....	.....
15a. 60" conduit, filters to Riverside .....	.....	.....	.....	270,000	270,000	.....	.....
16. Filters begin 1923 (16 mgd.) .....	.....	480,000	.....	600,000	1,080,000	.....	.....
17. Sedimentation Basin:							
Lining tanks and dividing for cleaning .....	.....	.....	.....	250,000	250,000	.....	.....
18. Dam across canal, below filters .....	.....	.....	25,000	.....	25,000	.....	.....
19. Bridges	8,000	20,000	.....	.....	28,000	.....	.....
20. Washington Station:							
Suction pipe tunnel	4,000	.....	.....	.....	4,000	.....	.....
21. Covering part of flume	6,000	.....	.....	.....	6,000	.....	.....
22. Meters .....	.....	150,000	150,000	550,000	850,000	.....	.....
23. Land at Broad Ripple	12,000	.....	.....	.....	42,000	.....	.....
at Fall Creek Sta.	22,000						
Protection Fall Creek Wells	8,000						
24. Fall Creek Dike & Grading .....	.....	10,000	.....	.....	10,000	.....	.....
25. Riverside grading, planting & fencing .....	.....	.....	15,000	.....	15,000	.....	.....
26. Oaklandon Storage reservoir on Fall Creek .....	.....	.....	.....	1,100,000	1,100,000	.....	.....
Total	\$1,166,000	\$1,727,000	\$849,000	\$6,561,000	\$10,303,000	\$687,000	.....

Table 21.—Cost of Betterments upon Metered Consumption Basis at 1923 Prices, Including 15% Overhead, etc., Allowance

Betterment	1923	1924	1925	1926-1937	(1922-1937) = 15 years		
					Total	Amount	Miles
1. Supply pipes	\$567,000	\$481,000	\$343,000	\$1,763,000	\$3,154,000	\$210,000	7.6
2. Distribution pipes	232,000	162,000	162,000	1,343,000	1,899,000	126,000	10.4
3. Total	\$799,000	\$643,000	\$505,000	\$3,106,000	\$5,053,000	\$336,000	18
Pumps (Centrifugal) at							
4. Fall Creek Station	40,000	.....	40,000	.....	80,000	.....	.....
5. Brightwood Sta.	9,000	.....	.....	.....	9,000	.....	.....
6. Michigan Sta.	16,000	.....	.....	.....	16,000	.....	.....
7. Broad Ripple Sta. ....	.....	7,000	.....	.....	7,000	.....	.....
8. Riverside Station .....	.....	.....	.....	80,000	80,000	.....	.....
8a. " " suction piping .....	.....	.....	.....	45,000	45,000	.....	.....
Boilers at							
9. Fall Creek Station	19,000	.....	.....	.....	19,000	.....	.....
" " coal handling app. etc.	10,000	.....	.....	3,000	13,000	.....	.....
10. Riverside Station .....	.....	.....	.....	19,000	19,000	.....	.....
11. Air Compressor & Auxil. Riverside..	25,000	5,000	.....	20,000	50,000	.....	.....
12. Suction Reservoir at Fall Creek....	.....	230,000	.....	.....	230,000	.....	.....
13. Driven wells and pumps at	.....	.....	.....	.....	.....	.....	.....
Riverside Station .....	.....	.....	.....	50,000	50,000	.....	.....
14. Fall Creek Sta.	5,000	7,000	.....	.....	12,000	.....	.....
15. Broad Ripple .....	.....	6,000	.....	.....	6,000	.....	.....
15a. 54" conduit from Filters .....	.....	.....	.....	200,000	200,000	.....	.....
16. Filters .....	.....	380,000	.....	360,000	740,000	.....	.....
17. Sedimentation Basin, lining & division	.....	.....	.....	250,000	250,000	.....	.....
18. Dam across Canal .....	.....	.....	25,000	.....	25,000	.....	.....
19. Bridges	8,000	20,000	.....	.....	28,000	.....	.....
Washington Station							
20. Suction pipe tunnel	4,000	.....	.....	.....	4,000	.....	.....
21. Covering flume	6,000	.....	.....	.....	6,000	.....	.....
22. Meters .....	.....	150,000	150,000	550,000	850,000	.....	.....
23. Land at	.....	.....	.....	.....	.....	.....	.....
Broad Ripple	12,000	.....	.....	.....	12,000	.....	.....
Fall Creek Sta.	22,000	.....	.....	.....	22,000	.....	.....
" " Wells	8,000	.....	.....	.....	8,000	.....	.....
24. Fall Creek Dike & Grading.....	.....	10,000	.....	.....	10,000	.....	.....
25. Riverside grading, planting & fencing	.....	.....	15,000	.....	15,000	.....	.....
	\$983,000	\$1,458,000	\$735,000	\$4,683,000	\$7,859,000	\$524,000	
						Av. annual amount	

Estimated Additions for 1924

Authorized	Sizes	Feet	Est. cost	Expended to 3/31/24
Feeder mains	6" to 24"	29,854	\$201,168	.....
Mains on B. of W. orders	6 to 16	130,218	279,696	.....
<hr/>				
Tot. Mains 4460 tons		160,072	\$480,864	\$62,153
Hydrants to replace 156 old type Holly, net.			5,300	888
Hydrants, 200 initial installation.			22,000	207
Valves, 15 extra			1,500	75
Meters (under shipment) probable authorization.			60,000	14,818
Services, probable authorization			10,000	1,916
Experimental filters.			2,000	172
Equipment at Mich. St. Booster			2,600	2,564
" at Brightwood Booster.			2,800	555
8 Steam flow meters at R. S.			1,000	854
Flue gas analysis apparatus.			277	277
Drilling 10 test wells at Fall Creek.			1,000	220
Sprinkler system at Riverside.			1,604	1,604
Hoisting derrick, Riverside.			6,117	6,117
Sprinkler System in office bldg.			3,250	1,716
2 Chlorinators			1,100	.....
Valve in supply line, Fall Creek.			262	262
1 Ross thawing machine.			300	.....
Electrical engine stops.			700	556
Feed water lines at Riverside.			2,450	1,804
Pito apparatus at Riverside.			2,000	.....

Estimated Additions for 1924—Continued

Authorized	Est. cost	Expended to 3/31/24
Real estate assessments.....	.....	1,246
Automotive equipment, net.....	3,764	3,764
Office equipment.....	8,022	1,494
	<u>\$618,910</u>	<u>\$103,262</u>
4,300 tons pipe contracted for 1924 at \$50.10 to \$52.10 av. \$51.10 .....	.....	\$219,730
300 tons pipe on 1923 contract delivered in 1924 at \$50. ....	.....	15,000
75 tons fitting contracts for 1924 delivery, at \$105. ....	.....	.....
200 tons will be used. ....	.....	21,000
85 tons has been delivered in 1924 to 4/20. ....	.....	6,825
1,123 tons pipe has been delivered in 1924 to 4/20 at av. \$51.10. ....	.....	57,295

Gross operating Revenue:

	1921	1922	11
1. Commercial Sales Metered	\$548,837	\$608,046	\$69
2. " " Flat Rate	735,612	788,916	83
3. Industrial Sales Canal Water	25,044	25,825	2
4. Municipal Hydrant Rentals	217,199	240,056	25
5. Sales to Municipal Departments ..	5,926	6,000	
6. Sales for Building Purposes	16,515	26,597	2
7. Fees & Miscellaneous	1,173	1,124	
8. Total Operating Revenue ..	<u>\$1,550,306</u>	<u>\$1,696,564</u>	<u>\$1,84</u>

Gross Non-operating Revenue:

9. Merchandise Sales	\$2,705	\$3,703	\$
10. Piping and Connections	2,480	2,112	
11. Rent Revenues	12,503	11,367	1
12. Interest on Deposits	3,155	10,087	
13. Interest on Investments	1,672	1,894	
14. Sub-Total	<u>\$22,515</u>	<u>\$29,163</u>	<u>\$2</u>
15. Less Rent Expenses	<u>3,529</u>	<u>1,129</u>	
	<u>\$18,986</u>	<u>\$28,034</u>	<u>\$2</u>

Gross Annual Revenue \$1,569,292 \$1,724,598 \$1,80

New Rates went into effect Jan. 1, 1924, April, 1922, verify.

Jan. 1, 1924. Inch feet, 20,839,606 at 1.25%	\$260,495
Hydrants, 4,236 at \$12.00	50,832
Fire cisterns 171 at \$12.00	2,052
	<u>\$313,379</u>
Drinking fountains 50 (?) at \$45	2,250
Insane Hospital, $\frac{1}{2}$ x 13 Hydrants at \$60	390
	<u>\$316,012</u>
City of Indianapolis	
Beech Grove—431,171 inch feet 1.25%	5,390
67 Hydrants—\$12.00	804
	<u>\$6,194</u>
Beech Grove	
Woodruff Place—Hydrants 9 at \$60	540
	<u>\$322,738</u>
Grand Total	

*Estimates of Hydrant Rentals, etc., 1924.

COMPLAINANT'S EXHIBIT No. 22

Metcalf's Gross Annual Revenue

Gross operating Revenue:	1921	1922	1923	January & Feb., 1923	January & Feb., 1924	Prorated, 1924	Revised, 1924	Prorated on 3 mos., 1924
1. Commercial Sales Metered	\$548,837	\$608,046	\$697,263	\$111,070	\$146,061	\$876,366	\$876,000	\$851,000
2. " " Flat Rate	735,612	788,916	831,945	133,711	141,327	847,962	848,000	858,000
3. Industrial Sales Canal Water	25,044	25,825	27,150	4,458	4,575	27,450	28,000	28,000
4. Municipal Hydrant Rentals	217,199	240,056	251,551	40,933	53,382	320,292	330,000	320,000*
5. Sales to Municipal Departments	5,926	6,000	6,195	970	2,589	15,534	24,000	24,000
6. Sales for Building Purposes	16,515	26,597	25,601	2,174	843	5,058	20,000	10,000
7. Fees & Miscellaneous	1,173	1,124	1,266	431	167	1,002	1,000	.....
8. Total Operating Revenue ..	<u>\$1,550,306</u>	<u>\$1,696,564</u>	<u>\$1,840,971</u>	<u>\$293,747</u>	<u>\$348,944</u>	<u>\$2,093,664</u>	<u>\$2,127,000</u>	<u>\$2,091,000</u>
Gross Non-operating Revenue:								
9. Merchandise Sales	\$2,705	\$3,703	\$3,922	\$233	\$180	\$1,080	\$4,000	.....
10. Piping and Connections	2,480	2,112	320	322	87	522	1,000	.....
11. Rent Revenues	12,503	11,367	14,645	2,185	2,331	13,986	14,000	.....
12. Interest on Deposits	3,155	10,087	6,122	1,365	1,500	9,000	9,000	.....
13. Interest on Investments	1,672	1,894	1,544	257	257	1,542	2,000	.....
14. Sub-Total	<u>\$22,515</u>	<u>\$29,163</u>	<u>\$26,553</u>	<u>\$3,718</u>	<u>\$3,995</u>	<u>\$23,970</u>	<u>\$30,000</u>	.....
15. Less Rent Expenses	<u>3,529</u>	<u>1,129</u>	<u>1,022</u>	<u>122</u>	<u>93</u>	<u>558</u>	<u>1,000</u>	.....
	<u>\$18,986</u>	<u>\$28,034</u>	<u>\$25,531</u>	<u>\$3,596</u>	<u>\$3,902</u>	<u>\$23,412</u>	<u>\$29,000</u>	<u>\$29,000</u>
Gross Annual Revenue	<u>\$1,569,292</u>	<u>\$1,724,598</u>	<u>\$1,866,502</u>	.....	.....	<u>\$2,117,076</u>	<u>\$2,156,000</u>	<u>\$2,120,000</u>

New Rates went into effect Jan. 1, 1924, April, 1922, verify.

Jan. 1, 1924. Inch feet, 20,839,606 at 1.25%	\$260,495	Jan. 1, 1924. Basis—Hydrant Service, etc.....	\$322,753
Hydrants, 4,236 at \$12.00.....	50,832	During year— $\frac{1}{4}$ x \$21,000 increase.....	7,000
Fire cisterns 171 at \$12.00.....	2,052		<u>\$330,000</u>
	<u>\$313,379</u>		
Drinking fountains 50 (?) at \$45.....	2,250		
Insane Hospital, $\frac{1}{4}$ x 13 Hydrants at \$60....	390		
City of Indianapolis.....	<u>\$316,012</u>		
Beech Grove—431,171 inch feet 1.25¢.....	5,390		
67 Hydrants—\$12.00.....	804		
Beech Grove.....	<u>\$6,194</u>		
Woodruff Place—Hydrants 9 at \$60.....	540		
Grand Total.....	<u>\$322,753</u>		

*Estimates of Hydrant Rentals, etc., 1924.



[fol. 5]

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rom
rating

1. W,000

2. P,000

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5. C,000

6. G,000

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[fol. 299]

COMPLAINANT'S EXHIBIT 21

Assumed Construction Budget for 1924 by Metcalf

Filter extension	\$125,000
Fall Creek filters $\frac{1}{2}$ x 6 m. g. d.....	150,000
Reservoir 5 m. g. d.....	130,000
Standpipe Butler	60,000
Fall Creek filter conduit.....	25,000
Wells Fall Creek.....	12,000
Flume cover	5,000
Taps	10,000
Meters (5,000)	60,000
Dike Riverside	25,000
36" pipe, main supply	59,000
30.3 miles mains.....	491,000
Other pipe	110,000
Lands	42,000
	<hr/>
	\$1,304,000

(Here follow Complainant's Exhibits Nos. 22 and 23, marked side folio pages 300 and 301)

COMPLAINANT'S EXHIBIT 24

[fol. 302]

Metcalf's 1924 Tax Forecast (Based upon Latest Valuation by Public Service Commission)

May 31, 1923. Public Service Commission Valuation of Property for Rate Making Purposes.	\$15,260,400
Apr. 1, 1922. Non-operative property (Engr. Pub. Serv. Com.)	648,921
May 31, 1923-Dec. 31, 1923. Betterments less retirements	805,319
Dec. 31, 1923. Rate base corresponding to Public Service Commission's Rate base plus non-operative property and betterments	16,714,640
Deduct Intangible property, Public Service Commission	980,000
Dec. 31, 1923. Resulting tax base, based on P. S. Commission valuation as per order 7080 brought down to Dec. 31, 1923	15,734,640
1. State, county and city tax (for 1924) based upon above tax base, average rate 2.28% x \$15,734,-640	358,750
2. Federal Capital Stock Tax (1924)	3,300
3. Federal Income Tax of 1924:	362,050
a. Gross operating revenue.	\$2,127,000
b. Non-operating revenue	29,000
c.	2,156,000
d. Operation and maintenance.	623,000
e.	1,533,000

4,000
1,000
15,000
10,000 (?)

- f. Add donations not deductible from tax base.....
- g. Add Public Liability Ins. Reserve Tax Base.....
- h. Add Income on Dep. fund investment.....
- i. Add Surplus additions, say.....

\$1,563,000
362,000

\$1,201,000

k. Deduct state, county and city 1924 tax and Federal Capital Stock Tax, supra

l.

m. Deduct interest on bonds, etc.:

\$4,500,000 @ 5.5%..... 247,500
3,31,000 @ 4.5%..... 167,895
Sundry interest 2,000
Amortization of bond Disc. 15,000

432,400

\$768,600

n.

- o. Add net income of Indpls. W. W. Sec. Co..... 261,000
- Less dividends of " W. W..... 400,000
- Other income 2,600
- Amortization of bonds..... 7,100

148,300

\$620,000

77,538

440,000

Resulting Federal Income Tax 12½% of.....

Total Tax for 1924 (approx.)

on basis of Public Service Commission valuation brought down to Dec. 31, 1923

[fol. 303] COMPLAINANT'S EXHIBIT 25

Metcalf's 1924 Tax Forecast on Basis of Water Company's Contended Value

December 31, 1923, Company's Valuation	\$18,641,000
1. State, County and city tax for 1924, 2.28% x 18,641,000.....	425,000
2. Federal capital stock tax, Approx.	3,300
	<hr/> 428,000

3. Federal Income Tax of 1924:

a. Gross operating revenue	2,156,000
b. Operation and maintenance	623,000
c.	<hr/> 1,533,000

Add Non-deductibles:

d. Donations	4,000
e. Pub. liability res.	1,000
f. Inc. on Dep. Fund	15,000
g. Surp. additions	10,000
	<hr/> 30,000
h.	<hr/> 1,563,000

Deduct state, county and city taxes:

i. and Federal capital stock tax	428,000
j.	<hr/> 1,135,000

Interest on bonds, etc.:

k. 4,500,000 at 5.5%	247,500	
l. 3,731,000 at 4.5%	167,895	
m. Sundry interest	2,000	
n. Amortization of bond Discount	15,000	432,000
		<hr/>
		703,000
o.		
p. Add net income of Indianapolis Water Works Securities Co.	261,000	
Less Div.	400,000	
Other income	2,600	
Amortization of Bond disc.	7,100	
	<hr/>	
	409,700	148,000
		<hr/>
12% of		555,000
		<hr/>
		69,000
		<hr/>
		497,000

Total tax for 1924
on basis of Water Company's Value of property.

Metcalf's Revenue and Operating Expense Analysis

	1921	1922	1923	1924 forecast
1. Operating revenue	\$1,550,306	\$1,696,564	\$1,840,971	\$2,127,000
2. Operating expenses	432,937	479,942	535,724	623,000
3. Sub-total	\$1,117,369	\$1,216,622	\$1,305,247	\$1,504,000
4. Taxes	284,310	311,464	338,800	440,000
5. Sub-total	\$833,059	\$905,158	\$966,447	\$1,064,000
6. Depreciation allowance	83,158	87,206	89,610	135,000 (1)
7. Net operating revenue	\$749,901	\$817,952	\$876,837	\$939,000
8. Non-operating revenue	18,986	28,034	25,531	29,000
9. Net earnings	\$768,887	\$845,986	\$902,368	\$958,000
Deductions:				
10. Interest upon funded debt	\$285,395	\$285,141	\$383,135	
11. " floating debt	452	602	1,484	540,000 (3)
12. Pa. State tax refunds	1,436	1,326	1,702	3,000
13. Amortization on bond discounts	6,274	6,300	18,401	21,000
14. Miscellaneous	1,502	1,807	3,774	4,000
15. Total deductions	\$295,059	\$295,177	\$408,496	\$568,000
16. Net income	\$473,828	\$550,809	\$493,872	\$390,000

COPY BOUND CLOSE IN CENTER

	(1)	(2)
17. Preferred stock dividend	\$35,595	\$400,000
18. Discount on preferred stock	3,000	
19. Common stock dividend	400,000	\$400,000
20. Total	\$475,710	\$400,000
21. Balance	\$75,099	\$10,000 to \$60,000 †

1. The rates put into effect Jan. 1, 1924 will yield just about the same balance at the end of the year as in the past three years, and not any substantial increase.

2. The net (divisible earnings for 1924 (\$58,000) will yield but—
 5.1% on the Company's valuation of its property as of Dec. 31, 1923, contained in its petition
 to the Court of \$18,641,000
 4.8% on the Company's valuation (\$18,641,000) as of Dec. 31, 1923, plus betterments of
 1924 (\$1,306,000) \$19,947,000
 5.97% on the rate base of the Public Service Commission brought down to Dec. 31, 1923 as
 follows:

Value found by Public Service Commission as of May 31, 1923	\$15,260,400
Plus new construction less retirements from May 31 to Dec. 31, 1923	805,319
Less depreciation (pro-rated May 31—Dec. 31, 1923)	52,273
Resulting rate base Dec. 31, 1923	16,013,446

Whereas the Commission has found 7% the fair rate of return and the Company claims 8%.

† Depending upon rapidity of execution of new construction.

(1) Note increased allowance for depreciation.

(2) Refinanced the debt in July 1, 1923.

COMPLAINANT'S EXHIBIT No. 26—Continued

(3) Method of determining this item:

- a. Outstanding Debt. Dec. 31, 1923:
 a. First lien & refunding mtg. 5½ bonds....
 b. First lien & refunding mtg. 4½ bonds....
 c.
 d. New construction since Jan. 31, 1923, as
 of which date the refunding was made Dec.
 31, 1923. New construction during year...
 Deduct Jan. 1923.
 (Because covered by refunding Jan. 31.)..

\$851,400

10,149

\$841,251

420,371

Deduct cash applicable from refunding.....
 Jan. & Feb. 1924 construction.....

\$420,880

\$62,531

\$29,462 at 7%

\$4,377 " "

Mch. 1 to Dec. 31, 1924 New Construction
 Company Estimate of Mains:

\$10,920

61,944

91,959

104,078

52,410

169,528

\$490,839

\$491,000

24" 780' at \$14.00.....
 20" 5,162' " 12.00.....
 16" 13,137' " 7.00.....
 12" 25,385' " 4.10.....
 8" 21,392' " 2.45.....
 6" 94,216' " 1.80.....

160,072' (30.3 miles).....

L. M.'s 1923 basis of Estimate on this would
 give \$5,253,500.

Interest

\$4,500,000
 3,731,000

\$415,395

\$4,500,000
 3,731,000

\$8,231,000\$449,234

[fol.305]

	1917	1918	1919
Operating Rev.....	\$1,076,255	\$1,085,905	\$1,198,
Non Opr. ".....	16,265	19,263	25,
Gross Annual Revenue..	\$1,092,520	\$1,105,168	\$1,224,
Opr. Expenses.....	\$280,222	\$291,735	\$309,
Taxes	174,575	194,233	188,
Depreciation	76,000	77,930	79,
Total Operation.....	\$530,797	\$563,898	\$577,
Net Earnings (Divisible)	\$561,723	\$541,270	\$648,
Population (Dec. 31).....	298,000	306,000	314,
Annual Mil. Gals.....	9,491	9,893	10,
Mil. Gals. Daily.....	26.0	27.1	3,
Mil. Gals. Filtered.....	7,559	8,129	8,
I. P. S. Corp. Rate Base.....	\$9,500,000	\$10,636,000	\$11,738,
Resulting Return.....		5.1%	5,
Co. Rate Base.....	\$11,000,000	\$12,186,000	\$13,553,
Resulting Return.....		4.4%	4,

*These amounts may be somewhat increased.

COMPLAINANT'S EXHIBIT No. 27

Metcalf's Forecast of Gross Revenue

On basis of Public Service Commission rate base

On company rate base

1919	1920	1921	1922	1923	1924	1925	1926	1924	1925	1926
\$1,198,183	\$1,395,282	\$1,550,306	\$1,696,564	\$1,840,971	\$2,127,000	.....	.....	.....	.....	.....
25,822	25,381	18,986	28,034	25,531	29,000	.....	.....	.....	.....	.....
<u>\$1,224,005</u>	<u>\$1,420,663</u>	<u>\$1,569,292</u>	<u>\$1,724,598</u>	<u>\$1,866,502</u>	<u>\$2,156,000</u>	<u>\$2,307,000</u>	<u>\$2,457,000</u>	<u>\$2,156,000</u>	<u>\$2,307,000</u>	<u>\$2,457,000</u>
\$309,896	\$385,982	\$432,937	\$479,942	\$535,724	\$623,000	\$645,000	\$665,000	\$623,000	\$645,000	\$665,000
188,531	286,537	264,310	311,464	338,800	440,000	475,000	500,000	497,000	332,000	555,000
79,088	80,705	83,158	87,206	89,610	135,000	147,000	160,000	141,000	153,000	166,000
<u>\$577,515</u>	<u>\$753,224</u>	<u>\$800,405</u>	<u>\$878,612</u>	<u>\$964,134</u>	<u>\$1,198,000</u>	<u>\$1,267,000</u>	<u>\$1,325,000</u>	<u>\$1,261,000</u>	<u>\$1,330,000</u>	<u>\$1,386,000</u>
<u>\$646,490</u>	<u>\$667,439</u>	<u>\$768,887</u>	<u>\$845,984</u>	<u>\$902,368</u>	<u>\$958,000</u>	<u>\$1,040,000</u>	<u>\$1,132,000</u>	<u>\$895,000</u>	<u>\$977,000</u>	<u>\$1,071,000</u>
314,200	322,200	333,400	343,300	352,000	362,000	371,000	381,000			
10,087	11,038	10,362	10,826	11,720	12,100*	12,100*	12,100*			
27.6	30.2	28.5	29.6	32.1	33.1	33.2	33.2			
8,743	9,040	8,972	9,638	9,252	.....	.....	.....
<u>\$1,738,000</u>	<u>\$13,039,000</u>	<u>\$14,547,000</u>	<u>\$14,976,000</u>	<u>\$15,202,000</u>	<u>\$16,013,000</u>	<u>\$17,182,000</u>	<u>\$18,056,000</u>			
5.5%	5.1%	5.3%	5.6%	5.9%	5.9%	6.0%	6.3%			
<u>\$553,000</u>	<u>\$15,035,000</u>	<u>\$16,788,000</u>	<u>\$17,606,000</u>	<u>\$17,830,000</u>	<u>\$18,641,000</u>	<u>\$19,810,000</u>	<u>\$20,684,000</u>			
4.8%	4.4%	4.6%	4.8%	5.1%	4.8%	4.9%	5.2%			

Table—Metcalf's Financial Forecast (1924-1926 inclusive) upon Basis of New Rates in Force January 1, 1924, and Value of Property Devoted to Public Use as Fixed by the Commission, but Increased by Estimated Cost of Necessary Betterments, including Adoption of Metered Basis of Selling Water (at rate of 5,000 meters per year) the Commission.

Year (1)	Rate base beginning of year (2)	Fair return 8% to 1923, 7% thereafter P. S. Commission (3)	Operating expenses (4)	Taxes (5)	Depreciation allowance (6)	Com- bined opera- tion, taxes & depreciation (7)	Equitable gross annual revenue (8)	Actual gross annual revenue		De bit (11)
								Amount (9)	Per cent of equi- table amounts (10)	
1917	\$9,500,000									
1918	10,636,000	\$850,000	\$292,000	\$194,000	\$78,000	\$564,000	\$1,408,000	\$1,105,000	78.5%	\$303,000
1919	11,738,000	939,000	310,000	189,000	79,000	578,000	1,522,000	1,223,000	80.4%	299,000
1920	13,039,000	1,043,000	386,000	287,000	81,000	753,000	1,796,000	1,420,000	79.2%	374,000
1921	14,547,000	1,165,000	433,000	284,000	83,000	800,000	1,965,000	1,569,000	79.8%	396,000
1922	14,978,000	1,198,000	480,000	311,000	87,000	879,000	2,077,000	1,725,000	83.0%	352,000
1923	15,202,000	1,216,000	536,000	339,000	90,000	964,000	2,180,000	1,866,000	85.4%	314,000
Totals	\$80,140,000	\$6,411,000	\$2,437,000	\$1,604,000	\$498,000	\$4,538,000	\$10,948,000	\$8,908,000	81.4%	\$2,038,000
Averages	\$13,357,000	\$1,069,000	\$406,000	\$267,000	\$83,000	\$756,000	\$1,825,000	\$1,485,000	81.4%	
Forecast Based Upon 7% Return Upon Commission's Valuation, etc. (See Caption)										
1924	\$16,013,000	\$1,121,000	\$623,000	\$440,000	\$135,000	\$1,198,000	\$2,319,000	\$2,156,000	93.2%	\$163,000
1925	17,182,000	1,203,000	645,000	475,000	147,000	1,267,000	2,470,000	2,307,000	93.5%	163,000
1926	18,056,000	1,264,000	665,000	500,000	160,000	1,325,000	2,589,000	2,457,000	94.8%	132,000
Averages	\$17,080,000									

Conclusion: During the six year period (1918-1923) the Company earned but 5.4% upon the value of its property devoted to public use, based upon the decisions of the Commission. The rate of return found by the Commission was 8%. This involved a loss to the Company of over \$2,000,000.

In the coming three year period (1924-1926), under the rates in force since January 1, 1924 the Company will earn but about 6% instead of 7% found fair by the Commission. The rates put into effect Jan. 1, 1924 will not yield a sufficient revenue to command the new capital necessary for the betterments and extensions required to give the Company a record with general standards of service in cities in this country.

COMPLAINANT'S EXHIBIT No. 28

on Basis of New Rates in Force January 1, 1924, and Value of Property Devoted to Public Use as Fixed by Indiana Public Service Commission, as of May 31, 1923, without Ap-
 necessary Betterments, including Adoption of Metered Basis of Selling Water (at rate of 5,000 meters per year) and Decreased by Allowance (annual) for Depreciation Fixed by

P. S. Commission	Operating expenses (4)	Taxes (5)	Depreciation allowance (6)	Com- bined opera- tion, taxes & depreciation (7)	Equitable gross annual revenue (8)	Actual gross annual revenue		Deficiency in gross annual revenue		Net annual revenue			Better- ments Net (16)
						Amount (9)	Per cent of equi- table amounts (10)	Amount (11)	Per cent (12)	Amount (13)	Per cent of rate base (14)	Per cent of equi- table (15)	
000	\$292,000	\$194,000	\$78,000	\$564,000	\$1,408,000	\$1,105,000	78.5%	\$303,000	21.5%	\$541,000	5.1%	64.3%	\$100,000
000	310,000	189,000	79,000	578,000	1,522,000	1,223,000	80.4%	299,000	19.6%	646,000	5.5%	68.2%	188,000
000	386,000	287,000	81,000	753,000	1,796,000	1,420,000	79.2%	374,000	20.8%	667,000	5.1%	64.1%	323,000
000	433,000	284,000	83,000	800,000	1,965,000	1,569,000	79.8%	396,000	20.2%	765,000	5.3%	65.7%	503,000
000	480,000	311,000	87,000	879,000	2,077,000	1,725,000	83.0%	352,000	17.0%	844,000	5.6%	70.3%	310,000
000	536,000	339,000	90,000	964,000	2,180,000	1,866,000	85.4%	314,000	14.6%	900,000	5.5%	74.0%	876,000
000	\$2,437,000	\$1,604,000	\$498,000	\$4,538,000	\$10,948,000	\$8,908,000	81.4%	\$2,038,000	18.6%	\$4,363,000	.....	.....	\$2,300,000
000	\$406,000	\$267,000	\$83,000	\$756,000	\$1,825,000	\$1,485,000	81.4%	.....	.....	\$727,000	5.4%	68.2%	\$383,000
Forecast Based Upon 7% Return Upon Commission's Valuation, etc. (See Caption)													
000	\$623,000	\$440,000	\$135,000	\$1,198,000	\$2,319,000	\$2,156,000	93.2%	\$163,000	6.8%	\$958,999	5.9%	84.3%	\$1,304,000
000	645,000	475,000	147,000	1,267,000	2,470,000	2,307,000	93.5%	163,000	6.5%	1,040,000	6.0%	85.7%	1,021,000
000	665,000	500,000	160,000	1,325,000	2,589,000	2,457,000	94.8%	132,000	5.2%	1,132,000	6.3%	90.0%	390,000
										\$1,043,000	6.1%	87.3%	

Company earned but 5.4% upon the value of its property devoted to public use, based upon the decisions of the Public Service Commission of Indiana at a time when the fair
 ved a loss to the Company of over \$2,000,000.

ae rates in force since January 1, 1924 the Company will earn but about 6% instead of 7% found fair by the Commission in its recent decision.
 efficient revenue to command the new capital necessary for the betterments and extensions required to give the proposed standard of service believed to be reasonable and in ac-



Other Construction

Filter extension	\$125,000
Fall Creek 6 M. G. D. filters ($\frac{1}{2}$)	150,000
Reservoir 5 M. G. D.	130,000
Standpipe Butler	60,000
Fall Creek filter conduit duplicate line 48" x 5/16" steel—500' long	25,000
Wells Fall Creek	12,000
Flume cover	5,000
Taps	10,000
5,000 meters	60,000
Riverside Station, dike due city delay	25,000
36" pipe connection	
Other pipe	59,000
	110,000
Lands	42,000

\$602,000

\$169,000

\$42,000

\$1,304,000

\$1,787,000

\$91,280 7 c

\$540,494 (3)

Note that this is the interest basis that would apply after the year's construction ending Dec. 31, 1924. During the year 1924 however, the interest upon the 1924 construction item, aggregating \$1,304,000 might well be only for 3 months— $\frac{1}{4}$ x\$91,280—\$22,420 so that in 1924 the amount shown (\$540,000) might be \$70,000 less.

(Here follow Complainant's Exhibits Nos. 27 and 28, marked side folios pages 305 and 306)

[fol. 307]

COMPLAINANT'S EXHIBIT No. 29

By Metcalf

Approximate Rate Base Based upon Decisions of the Public Service Commission of Indiana

Year ending Dec. 31	Fair value of property devoted to public use, rate base Dec. 31	Betterments at actual cost	Depreciation allowance set aside	Retirements (actual)	Depreciation less retirements (6) — (4—5)	Appreciation	
						Per cent	Amount
(1)	(2) — (2+3+8—6)	(3)	(4)	(5)	(6) — (4—5)	(7)	(8)
1916.....	\$9,500,000 (1)						
1917.....	<u>\$10,636,000</u>	\$236,000	\$76,000	\$26,000	\$50,000	10%	\$950,000
1918.....	11,738,000	100,000	78,000	16,000	62,000	10%	1,064,000
1919.....	13,039,000	188,000	79,100	17,900	61,200	10%	1,174,000
1920.....	14,547,000	323,000	80,700	6,400	74,300	9.65%	1,259,000
1921.....	14,978,000	503,000	83,200	11,600	71,600	.....	.....
1922.....	15,202,000	310,000	87,200	1,400	85,800	.....	.....
1923.....	<u>\$16,013,446 (2)</u>	876,000	89,600	24,000	65,200	.....	.....
	\$2,536,000		\$573,800	\$103,700	\$470,100	38.4%	\$4,447,000

(1) On Dec. 31, 1916, the Commission found value of "At least" \$9,500,000

(2) As of May 31, 1923, the Commission found value of \$15,260,400

May 31, 1923 to Dec. 31, 1923, New Construction less Retirements 805,319

\$16,065,719

Metcalf's Financial Forecast (1924-1926 Inclusive) upon Basis of New Rates put in

Year	Rate base beginning of year	Fair return, 8% to 1923, 7% thereafter, P. S. Commission	Operating expenses	Taxes	Depreciation allowance
(1)	(2) = *	(3)	(4)	(5)	(6)
1917	(\$11,000,000)				
1918	12,286,000	\$963,000	\$292,000	\$194,000	\$78,000
1919	13,553,000	1,084,000	301,000	189,000	79,000
1920	15,035,000	1,203,000	386,000	287,000	81,000
1921	16,788,000	1,343,000	433,000	284,000	83,000
1922	17,606,000	1,409,000	480,000	311,000	87,000
1923	17,830,000	1,426,000	536,000	339,000	90,000
Totals,	\$93,098,000	\$7,448,000	\$2,437,000	\$1,604,000	\$498,000
Average,	\$15,516,000	\$1,241,000	\$ 406,000	\$ 267,000	\$ 83,000
At 7% return					
					1% of structural value
1924	\$18,641,000	\$1,305,000	\$623,000	\$497,000	\$141,000
1925	19,810,000	1,387,000	645,000	532,000	153,000
1926	20,684,000	1,448,000	665,000	555,000	166,000
1927	(\$20,914,000)				
Totals,	\$59,135,000	\$4,140,000	\$1,933,000	\$1,584,000	\$460,000
Averages,	\$19,712,000	\$1,380,000	\$ 644,000	\$ 528,000	\$153,000

Conclusion: During the six year period (1918-1923 incl.) the company earned but 4.7% upon the corporations were paying from 8% to 10% for money. This involved a total loss of over \$3,000,000.

In the coming three year period (1924-1926) under the rates in force since Jan. 1, 1924, the Company will not yield a sufficient revenue to command the new capital in accord with general standards of service in cities in this country.

*See accompanying exhibits.

COMPLAINANT'S EXHIBIT No. 30

6 Inclusive) upon Basis of New Rates put in Force Jan. 1, 1924, and Value of the Property Devoted to the Public Use, Claimed by the Company.

P. S. Section	Operating expenses	Taxes	Depreciation allowance	Combined operation, taxes & depreciation	Equitable gross annual revenue	Actual gross annual revenue		Deficiency in gross annual revenue		Actual net annual revenue			Betterments
						Amount	Per cent of equitable amounts	Amount	Per cent (12) = (11) - (9)	Amount	Per cent of rate base (14) = (13) - (2)	Per cent of equitable = (15) = (13) - (8)	
	(4)	(5)	(6)	(7) = (4) - (5) - (6)	(8) = (3) - (7)	(9)	(10) = (9) - (8)	(11)	(11) - (9)	(13) = (9) - (7)	(13) - (2)	(13) - (8)	(16)
000	\$292,000	\$194,000	\$78,000	\$564,000	\$1,547,000	\$1,105,000	71.5%	\$442,000	28.5%	\$541,000	4.4%	55.0%	\$100,000
000	301,000	189,000	79,000	578,000	1,662,000	1,223,000	73.6%	439,000	26.4%	646,000	4.8%	59.6%	188,000
000	386,000	287,000	81,000	753,000	1,956,000	1,420,000	72.6%	536,000	27.4%	667,000	4.4%	55.4%	323,000
000	433,000	284,000	83,000	800,000	2,143,000	1,569,000	73.2%	574,000	26.8%	769,000	4.6%	57.1%	503,000
000	480,000	311,000	87,000	879,000	2,288,000	1,725,000	75.3%	563,000	24.7%	846,000	4.8%	60.1%	310,000
000	536,000	339,000	90,000	964,000	2,390,000	1,866,000	77.9%	524,000	22.1%	902,000	5.1%	63.2%	876,000
000	\$2,437,000	\$1,604,000	\$498,000	\$4,538,000	\$11,986,000	\$8,908,000	.....	\$3,078,000	.....	\$4,371,000	.....	.....	\$2,300,000
000	\$ 406,000	\$ 267,000	\$ 83,000	\$ 756,000	\$ 1,998,000	\$1,435,000	74.4%	\$ 513,000	25.6%	\$ 728,000	4.7%	58.8%	\$ 383,000
urn	1% of structural value					Forecast							
000	\$623,000	\$497,000	\$141,000	\$1,261,000	\$2,566,000	\$2,156,000	84.0%	\$410,000	16.0%	\$895,000	4.8%	68.6%	\$1,304,000
000	645,000	532,000	153,000	1,330,000	2,717,000	2,307,000	84.1%	410,000	15.1%	977,000	4.9%	49.3%	1,021,000
000	665,000	555,000	166,000	1,386,000	2,834,000	2,457,000	86.7%	377,000	13.3%	1,071,000	5.2%	51.8%	390,000
000	\$1,933,000	\$1,584,000	\$460,000	\$3,977,000	\$8,117,000	\$6,920,000	.....	\$1,197,000	.....	\$2,943,000	.....	.....	\$2,715,000
000	\$ 644,000	\$ 528,000	\$153,000	\$1,326,000	\$2,706,000	\$2,307,000	85.3%	\$ 399,000	14.7%	\$ 981,000	5.0%	71.0%	\$ 905,000

cl.) the company earned but 4.7% upon the value of its property devoted to public use based upon the Company's contended property value at a time when public service is involved a total loss of over \$3,000,000.

ie rates in force since Jan. 1, 1924, the Company will earn about 5% instead of 7½% to 8% deemed reasonable and 7% fixed by the Commission.

ufficient revenue to command the new capital necessary for the betterments and extensions required to give the proposed standard of service believed to be reasonable and entry.



Deduct Depreciation May 31 to Dec. 31, 1923, $7/12 \times \$89,610$	52,273
	<u>\$16,013,446</u>
"1916 Value by Commission "At least"	\$9,500,000
Betterments	2,536,000
	<u>\$12,036,000</u>
Deduct Depreciation less Retirements.....	470,000
	<u>\$11,566,000</u>
	\$4,447,000 Appreciation
	38.4 % Appreciation

(Here follows Complainant's Exhibit No. 30, marked side folio page 308)

[fol. 310]

COMPLAINANT'S EXHIBIT 32

Summary of land Appraisal by Appel & McCloskey

Riverside Station Land	\$771,145
Washington Station Land	160,065
Fall Creek Station Land	52,780
Michigan Booster Land	1,335
Rural St. Booster Land	700
Filtration Dept. Land	256,527
Canal Dept. Land	130,255
Canal Right of Way Land	1,222,880
Hamilton County Land	12,506
South Capital Ave. Land	2,725
Office, Warehouse & Stable Land	387,834
Easements	15,875
Total	\$3,014,627

Following the foregoing this exhibit contains 70 pages of details and data, which for the sake of brevity, are omitted from this transcript.

[fol. 311]

COMPLAINANT'S EXHIBIT 32½

Certain Rules and Regulations

Payment of Rates.—Schedule water rents shall be due and payable quarterly in advance, at the office of the Water Company, on the first day of each quarterly payment period. Season rates shall be due and payable in advance for the whole time on the 1st day of March. Metered water rates shall be due and payable monthly.

Meters.—Metered service will be furnished at the option of the Company.

Whenever the Water Company furnishes meter service it may, if in its judgment its protection requires it, exact a reasonable deposit to secure it for the water to be furnished; such deposit shall not exceed five dollars (\$5.00) for each 5/8 inch meter and for larger meters relatively larger amounts based on the capacity of the meter, and every such deposit shall bear interest at the rate of three per cent per annum payable by the Water Company, or, in lieu of such deposit, the consumer, at his option, may furnish a guarantor acceptable to the Company.

[fol. 312]

DEFENDANT'S EXHIBIT No. 33

Carter's Summary of Appraisal of April 1, 1922, of all Property

Appraisal No. 1

On Basis of Prices of Labor and Material for Period 1911-1920

	Operative property		Non-op. property		Total property	
	Cost of reprod.	Present value	Cost of reprod.	Present value	Cost of reprod.	Present value
A. Land	2,476,442	2,476,442	472,996	472,996	2,949,438	2,949,438
B. Trans. & Dist.	5,463,825	5,259,593	3,201	3,156	5,467,026	5,262,749
C. Bldgs. & Misc. Struc.	1,959,817	1,812,979	83,306	52,593	2,043,123	1,865,572
D. Plant Equipment.	2,080,736	1,779,375	31,523	26,794	2,112,259	1,806,169
E. General Equipment.	119,292	86,697	15,710	4,709	135,022	91,406
F. Paving	94,230	91,403	None	None	94,230	91,403
15% (See Note Below.)	1,829,151	1,725,973	91,010	84,037	1,920,161	1,810,010
H. Materials & Supplies.	99,793	98,561	8,913	4,636	108,706	102,997
Total	14,123,286	13,330,823	706,659	648,921	14,829,945	13,979,744

NOTE.—15% allowed on the total of all items exclusive of Materials and Supplies to cover Engineering, Superintendence, Interest during Construction, Taxes during Construction, Fire and Liability Insurance, Small Omissions of Inventory, Contingencies, etc.

Following the foregoing this Exhibit contains 598 pages of details, and data, which for sake of brevity are omitted from this transcript.

[fol. 314]

DEFENDANTS' EXHIBIT No. 35 (CARTER)

Net Capital Additions

	April 1, 1922, to May 31, 1923		June 1, 1923, to November 30, 1923	
	Cost of re- production	Present value	Cost of re- production	Present value
A. Land.....	\$5,828	\$5,828	\$13,281	\$13,281
B. Trans. & Dist.....	245,427	245,482	262,710	262,764
C. Bldgs. & Mis. Struc.....	12,670	12,670	x 196	583
D. Plant Equipment.....	1,371	1,371	33,392	33,409
E. General Equipment.....	3,713	x 362	10,572	18,608
F. Paving.....	.....	.....	Included with "B"	.....
Struct. Overhead.....	20,330	20,330	15,169*	15,169*
H. Mat. & Supplies.....	.....	.....	.....	.....
Totals.....	\$289,339	\$285,319	\$334,928	\$343,814
Non-operative:				
Land.....			\$285	\$285
Buildings.....			.....	.....

* Part of overhead Included with individual additions.

[fol. 314]

DEFENDANTS' EXHIBIT No. 35 (CARTER)

Net Capital Additions

	April 1, 1922, to May 31, 1923		June 1, 1923, to November 30, 1923		December 1, 1923, to December 31, 1923		Total April 1, 1922, to December 31, 1923	
	Cost of re-production	Present value	Cost of re-production	Present value	Cost of re-production	Present value	Cost of re-production	Present value
A. Land.....	\$5,828	\$5,828	\$13,281	\$13,281	.....	.....	\$19,109	\$19,109
B. Trans. & Dist.....	245,427	245,482	262,710	262,764	\$378,110	\$379,000	886,247	887,246
C. Bldgs. & Mis. Struc.....	12,670	12,670	x 196	583	2,141	2,676	14,615	15,929
D. Plant Equipment.....	1,371	1,371	33,392	33,409	.....	.....	34,763	34,780
E. General Equipment.....	3,713	x 362	10,572	18,608	x 341	x 2,022	13,944	16,224
F. Paving.....	.....	.....	Included with "B"	.....	.....	.....	Included with "B"	.....
Struct. Overhead.....	20,330	20,330	15,169*	15,169*	1,318*	1,318*	36,817*	36,817*
H. Mat. & Supplies.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	\$289,339	\$285,319	\$334,928	\$343,814	\$381,228	\$380,972	\$1,005,495	\$1,010,105
Non-operative:								
Land.....			\$285	\$285	.....	.....	\$285	\$285
Buildings.....			.....	.....	x 5,261	x 4,286	x 5,261	x 4,286

* Part of overhead Included with individual additions.



Carter's Summary of Appraisal of April 1, 1922, of all Property

Appraisal No. 2

On Basis of Labor and Material Prices for Period 1911-1920

	Operative property		Non-op. property		Total property	
	Cost of reprod.	Present value	Cost of reprod.	Present value	Cost of reprod.	Present value
A. Land	2,476,442	2,476,442			2,949,438	2,949,438
B. Trans. & Dist.	5,753,221	5,539,849	472,996	472,996	5,756,422	5,543,005
C. Bldgs. & Misc. Struc.	1,959,817	1,812,979	3,201	3,156	2,043,123	1,865,572
D. Plant Equip.	2,085,422	1,784,061	83,306	52,593	2,116,945	1,810,855
E. General Equipment.	119,292	86,697	31,523	26,794	135,002	91,406
F. Paving	94,230	91,403	15,710	4,709	94,280	91,403
15% (See note below.)	1,873,264	1,768,715	None	None	1,964,274	1,852,752
H. Materials & Supplies.	99,793	98,361	91,010	84,037	108,706	102,997
Total	14,461,481	13,658,507	706,659	648,921	15,168,140	14,307,428

NOTE.—15% allowed on the total of all items exclusive of Materials and Supplies to cover Engineering, Superintendence, Interest during Construction, Taxes during Construction, Fire and Liability Insurance, Small Omissions of Inventory, Contingencies, etc.

(Here follows Defendant's Exhibit No. 35, marked side folio page 314.)

[fol. 315]

DEFENDANT'S EXHIBIT 36 (CARTER'S)
Summary of Appraisal of Land and Buildings

Operative Property		
Land:	Cost of re- production	Present value
A-1 Pumping station and source of supply land.....	\$2,006,375	\$2,006,375
A-2 Other land	470,067	470,067
Total A land	2,476,442	2,476,442
Buildings and Misc. Structures:		
C-1 Pumping Station Buildings	523,512	441,299
C-2 Reservoirs	476,261	461,350
C-3 Wells	193,286	180,627
C-4 Stand Pipes and Tanks	None	None
C-5 Filters	521,463	495,255
C-6 Misc. Buildings, 1	245,295	214,448
	1,959,817	1,812,979
Sub-Total	4,436,259	4,289,421
15% Structural Overhead	665,439	643,413
Total land and buildings, operative property	5,101,698	4,932,834

Land:

	Cost of re- production	Present value	
A-1 Pumping Station & Source of Supply Land			
A-2 Other Land	None	None	
Total A Land	472,996	472,996	472,996
Buildings and Misc. Structures:			
C-1 Pumping Station Buildings	9,972	4,487	
C-2 Reservoirs	None	None	
C-3 Wells	2,346	2,228	
C-4 Stand pipes and tanks	None	None	
C-5 Filters	None	None	
C-6 Misc. Buildings	70,988	45,878	
Total Bldgs. & Misc. Structures	83,306		52,593
(See page 541 of detailed appraisal)			
Sub-total	556,302		525,589
15% Structural Overhead	83,445		78,838
Total land Bldgs. non-operative Prop.	639,747		604,427
Total operative and non-operative land and buildings.	5,741,445		5,537,261

[fol. 317]

DEFENDANT'S EXHIBIT No. 37 (CARTER'S)

Non-operative Land

Tract	Acres	Location in appraisal		Gross appraisal	Amount allowed for well sites as operative	Net amount listed as non-operative
		Page	Sketch			
Lot 1 in Brooks Add.....	6.27	535 & 5	III-A	\$9,405	\$500	\$8,905
Part Stouts Ind. Ave. Add.....	28.00	6 & 535	III-C	56,000	2,800	53,200
Schurmann.....	6.00	6 & 535	III-H	18,000	3,700	14,300
Schurmann.....	11.0	6 & 535	III-E	100,500	4,625	95,875
Emma Schurmann.....	22.5	6 & 535	III-F & J	130,380	4,625	125,755
Travelers insurance.....	46.30	6 & 535	II-A & B			
Vannoy.....	15.56	"	II-C			
City of Indpls.....	3.33	"	II-E	8,500	None	8,500
Schurmann River.....	17.00	536	II-D	250	None	250
Lot 76 Floral Park.....	.....	536	IV	2,100	None	2,100
Lots 106 to 112 inc. Floral Park.....	.....	536	IV	900	None	900
Lots 1 to 3 incl. Jennings Sub. Floral Park.....	.....	536	IV	250	None	250
Lot 86 Floral Park.....	.....	536	IV-E	500	None	500
Lot 34 Floral Park.....	.....	536	IV	300	None	300
Lot 101 Floral Park.....	.....	536	V	500	None	500
Lot 726 Montrose.....	.....	536	V	1,200	None	1,200
Lots 722-725 incl. Montrose.....	.....	536	V	600	None	600
Lot 708 Montrose.....	.....	536	V	1,250	None	1,250
Lots 701-705 incl. Montrose.....	2.86	537	II-F	5,720	None	5,720
Lohrmann.....	.....	537	NNIV-C	12,000	None	12,000
Dawson.....	12.00	537	NNIV-C	12,000	None	12,000

Lot 31 Riverside.....	537	XVIII	400	None	400
Lot 269 Armstrong Park.....	537	XIX	350	None	350
Lot 102 Armstrong Park.....	537	XX	350	None	350
Mooney.....	537	XXV	49,685	None	49,685
Lot 57 Riverview Addl.....	537	XXIX	400	None	400
"Underhill Mill".....	537	XIII-A	2,425	None	2,425
Cline Lot.....	538	XIII-B	44,475	None	44,475
Indpls. Brewing Co.....	538	IV-A	5,820	None	5,820
Males (Hamilton County).....	538	.....	13,372	1½ int. owned	6,686
White River Corporation.....	538	.....	30,000		30,000
Damage to Land above Fall Creek.....	538	.....		
Total.....	...	.....	\$495,932	\$22,936	\$472,996

[fol. 318] DEFENDANT'S EXHIBIT 38 (CARTER)

Office Land and Office Buildings

Land:	Cost of re- production	Per cent con- dition	Present value
General Office Land:			
General office land on northeast quadrant of Circle. Lot 13 in Square 45. T. L. Rec. 28, page 307. Area 13,985 S. F.	\$296,640	..	\$296,640
Building and Misc. Structures:			
Main Office Building:			
The nucleus of this building is an old residence structure built in 1860. The building has been repaired, remodeled and en- larged by additions of modern office construction.			
Area: 6,650 S. F.			
Content 193,704 C. F.—Main Office Bldg. Comp.....	\$31,224	85	26,540
Sub-total	330,154	..	325,043
15% structural overhead.....	49,523	..	48,756
Total office land and office buildings	\$379,677	..	\$373,799

[fol. 319] DEFENDANT'S EXHIBIT 39 (CARTER'S)

Showing Capitalization of Rental Value, Office Land and Building
(Indianapolis Water Co.)

Assume space needed on main floor..... 4,500 sq. ft.
Assume space needed on upper floors..... 4,000 sq. ft.

Rent:

4,500 sq. ft. @ \$5.00.....	\$22,500 year
4,000 sq. ft. @ 2.50.....	10,000 year
Meter room @ \$75 — Mo.....	900 year
Garage rent	1,000 year
	<u>\$34,400</u>

DEFENDANT'S EXHIBIT No. 41 (CARTER)

Canal Property

Broad Ripple South Excluding Washington Station & Canal

Inventory as of April 1, 1922	1911-1920		1912-1921		Co pro
	Cost of re- production	Present value	Cost of re- production	Present value	
A. Land	\$1,690,070	\$1,690,070	\$1,690,070	\$1,690,070	\$1,6
B. Trans. & Dist.	1,743	1,569	1,865	1,679	
C. Bldgs. & Misc. Structures	4,433	3,534	4,699	3,746	
D. Plant Equip.	1,049,447	1,016,239	1,114,513	1,079,246	1,1
E. General Equip.	845	591	887	621	
F. Paving	None	None	None	None	
G. Mat. & Supplies.	None	None	None	None	
Total	\$2,746,538	\$2,712,003	\$2,812,034	\$2,775,362	\$2,8

(Here follows photo marked side folio page 322.)

Present value

\$296,640

321]

DEFENDANT'S EXHIBIT No. 41 (CARTER)

Canal Property

Broad Ripple South Excluding Washington Station & Canal Map

		1911-1920		1912-1921		1913-1922 Adjusted		May, 1923, Spot	
Inventory as of April 1, 1922		Cost of re-production	Present value	Cost of re-production	Present value	Cost of re-production	Present value	Cost of re-production	Present value
26,540	Land	\$1,690,070	\$1,690,070	\$1,690,070	\$1,690,070	\$1,690,070	\$1,690,070	\$1,690,070	\$1,690,070
	Trans. & Dist.	1,743	1,569	1,865	1,679	1,860	1,674	2,707	2,437
325,043	Bldgs. & Misc. Structures	4,433	3,534	4,699	3,746	4,770	3,803	6,938	5,531
48,756	Plant Equip.	1,049,447	1,016,239	1,114,513	1,079,246	1,115,562	1,080,262	1,531,143	1,482,693
	General Equip.	845	591	887	621	872	610	1,049	734
	Paving	None	None	None	None	None	None	None	None
\$373,799	Mat. & Supplies	None	None	None	None	None	None	None	None
Total		\$2,746,538	\$2,712,003	\$2,812,034	\$2,775,362	\$2,813,134	\$2,776,419	\$3,231,907	\$3,181,465

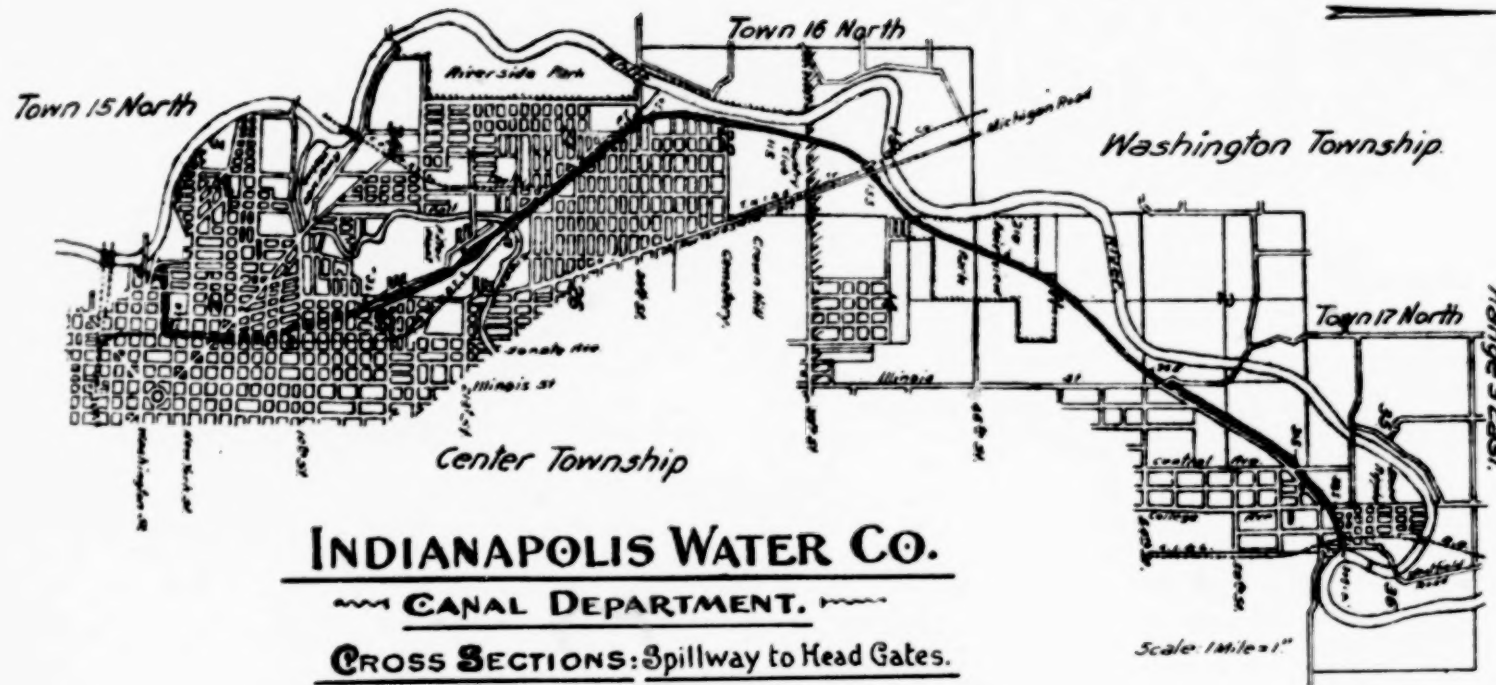
(Here follows photo marked side folio page 322.)

1 Building

,500 sq. ft.
,000 sq. ft.

2,500 year
0,000 year
900 year
1,000 year

34,400



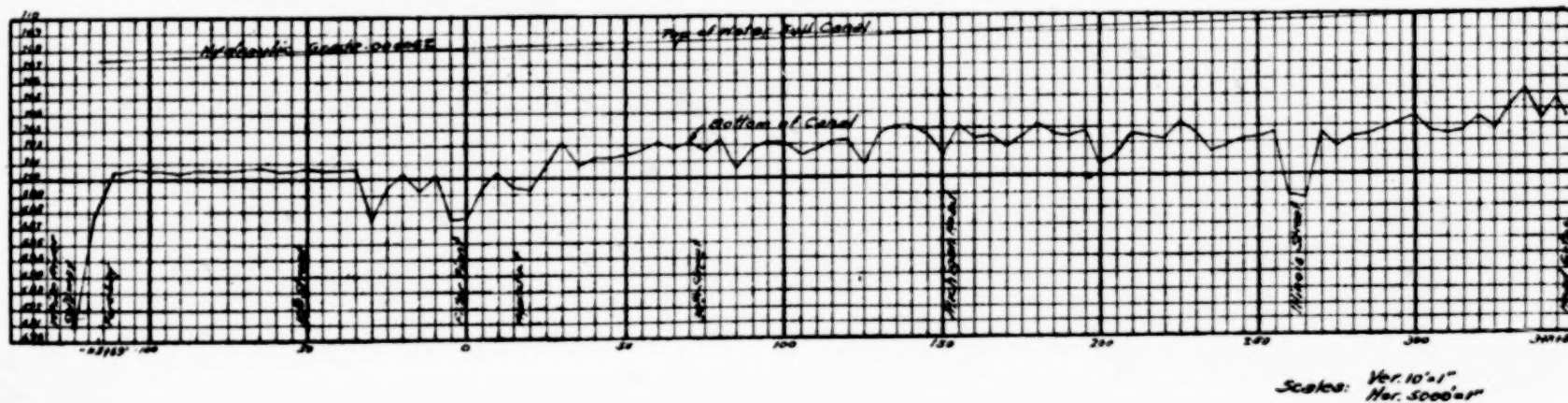
INDIANAPOLIS WATER CO.

CANAL DEPARTMENT.

CROSS SECTIONS: Spillway to Head Gates.

Date: Dec. 28, 1909.

W. C. MABEE, Engineer. F. G. PALMER, Asst Engr.



DEFENDANT'S EXHIBIT NO. 41. (CARTER'S) CONTINUED

[fol. 323]

DEFENDANT'S EXHIBIT NO. 42 (CARTER)

Appraisal of Entire Canal Property (Filter Plant South)

Inventory as of April 1, 1923	1911-1920		1912-1921		1913-1922 Adjusted		May, 1923, Spot	
	Cost of re- production	Present value	Cost of re- production	Present value	Cost of re- production	Present value	Cost of re- production	Present value
A. Land	\$1,397,562	\$1,397,562	\$1,397,562	\$1,397,562	\$1,397,562	\$1,397,562	\$1,397,562	\$1,397,562
B. Trans. & Dist.....	None	None	None	None	None	None	None	None
C. Bldgs. & Misc. Structures.....	81,997	63,724	86,917	67,547	88,229	68,567	128,325	99,728
D. Plant Equip.....	368,512	352,708	391,360	374,576	391,728	374,929	537,659	514,601
E. General Equip.....	None	None	None	None	None	None	None	None
F. Paving	None	None	None	None	None	None	None	None
H. Mat. & Supplies.....	None	None	None	None	None	None	None	None
Total	\$1,848,071	\$1,813,994	\$1,875,839	\$1,839,685	\$1,877,519	\$1,841,058	\$2,063,546	\$2,011,891



Taxes @ \$2.60 on \$375,769	\$9,845.15 year
Heat	850.00 year
Repairs	1,000.00 year
Janitor services	1,000.00 year

\$12,695.15

Difference	21,704.85
\$21,704.85 = 8% on	\$271,310.62
34,400.00 = 14% on	245,714.28
34,400.00 = 15%	229,333.33

[fol. 320] DEFENDANT'S EXHIBIT 40 (CARTER'S)

Rental Space Value if Main Office of Indianapolis Water Company
Were in Location Similar to Citizens Gas Company

Assume space needed on main floor	4,500 sq. ft.
Assume space needed on upper floors	4,000 sq. ft.

Rent:

4,500 sq. ft. @ \$1.50 per sq. ft.	\$6,750
4,000 sq. ft. @ 1.00 per sq. ft.	4,000
Meter room @ \$75 per month	900
Garage rent	1,000

Total \$12,650

\$12,650—14% on	\$90,357
12,650—15% on	84,333

(Here follow Defendant's Exhibits Nos. 41 and 42, marked side folio pages 321, 322, and 323)

[fol. 324] DEFENDANT'S EXHIBIT No. 43 (CARTER'S)

Brief Historical Sketch of Canal Property

Excerpt from "Abstract of Title to Certain Property of Indianapolis Water Company South of North Street and formerly part of the Indiana Central Canal in the City of Indianapolis, Marion County, Indiana. Prepared for State of Indiana. Prepared by Indianapolis Title Company."

"The land now known as Marion County, Indiana, is a part of the territory purchased by the United States of the Delaware Indians, by treaty at Greenville, Ohio in 1818. By Act of Congress the United States granted to the State of Indiana four sections of land for a

state and capitol, subject to certain conditions, which grant and conditions were accepted, and in 1821 said four sections were located, being sections 1, 2 and 12 and parts of section- 3 and 11 in Township 15, North of Range 3 East, containing in all 2,560 acres, equal to four full sections.

"The Town of Indianapolis was then laid out into squares and Out Lots, and the office of Agent of State created; the duty of said officer being to sell and convey lots in said town. In 1844 said Office was discontinued, and the papers and records transferred to the Secretary and Auditor of State, who are at present custodians thereof.

"By Act of the General Assembly of Indiana, January 9, 1832 (Acts of 1832, page 3) the duties of Canal Commissioners were defined and extended, and they were authorized to construct portions of the Wabash and Erie Canal.

"By section 10 of the Act of February 6, 1835 (Acts of 1835 page 28) the Canal Commissioners were directed to survey and locate a Canal from a suitable point on the Wabash and Erie Canal "by the way of Muncie Town etc., and Indianapolis at or near the White River, thence to a point on the Ohio River."

"By Act of 1836 page 6, a Board of Internal Improvement was created, and section 4 of said Act specified the work which the Board was to adopt measures to commence, construct and complete, including the Central Canal, a survey of which had formerly been authorized, and appropriations were made for said work.

"The following extracts from the Minutes of the Board of Internal Improvements, now in the custody of the Land Department of the Auditor of State, are explanatory of the location and construction of the Central Canal: March 10, 1836 (page 12) Resolved, That David Burr is hereby authorized to put under contract 26 miles of the Central Canal passing through Indianapolis, including the dam [fol. 325] above and the stone quarries at the Bluffs of White River below the Town.

"October 4, 1836 (page 23) Resolved, That the location of the Canal on Missouri Street in Indianapolis, be and the same is hereby approved, provided the Acting Commissioner can procure what he shall deem a sufficient number of releases of the right of way from the owners of property upon said street; otherwise he is fully authorized to change the location of the Canal Route through said town on such streets or alleys as he may deem best calculated to promote the public interest.

"October 5, 1836 (page 27) Resolved, That the Acting Commissioner of the Indianapolis Division of the Central Canal be authorized to purchase from Messrs. McCarty, Blake and Ray, the necessary ground for the use of the surplus water power to be created and used at or near Indianapolis, being about 5 acres; provided it can be purchased for a sum not exceeding \$600.00 per acre, and on such purchased and to take the proper conveyances to the State therefor.

Extracts from paper read before the Indiana Centennial Association, July 4, 1900 by Mr. Wm. H. Smith and published in the Indianapolis Journal, Sunday August 12, 1900.

"On Jan. 16, 1836 Indianapolis was a little straggling village in the wilderness, containing less than two thousand inhabitants. It was almost without the bounds of civilization. It had been selected as the capital of the new State, but was located in the dense forests, without a cleared farm within twenty miles of it. A cabin or two had been erected by a family of settlers and some effort had been made toward clearing a few acres ready for cultivation."

"A bill had been introduced to inaugurate and carry on an extensive system, consisting of a number of canals, a railroad or two, and two or three turnpikes. A test vote was taken on the measure on the 16th of January, 1836, and it became evident that on a final vote it would pass."

"Two of the proposed improvements were to come to Indianapolis: A railroad from the Ohio River and the Central Canal, which was to be built from a point on the Wabash & Erie Canal between Ft. Wayne and Logansport to Muncie, they called Muncietown, through Delaware and Hamilton Counties to Indianapolis, and thence in a southwesterly direction until it would intersect the Wabash & Erie Canal not far from Evansville." * * *

"The Wabash & Erie Canal was being constructed under the aid of the General Government." * * * "The Wabash & Erie Canal was to connect Lake Erie with the Ohio at Evansville. Wabash was [fol. 326] added to its name because it was to run close to that stream and get its supply of water therefrom for most of the way. It bisected the northern part of Indiana, but left the great central portion to the mud roads and the pack horses, so to help this section of the state another canal was proposed, which would also lead to the Ohio River. So the Central Canal was projected." * * * "For the construction of the Central Canal the sum of \$3,500,000 was appropriated."

"Surveyors were immediately employed and the work of construction at once began. The work was to begin at Indianapolis and be pushed in both directions. Hundreds of men were employed in doing the ditching, farmers found employment in cutting away the timber and in providing provisions. Timber for culverts, locks, etc., was prepared and the dawn of prosperity was on the people sure enough. Prices of real estate in the city advanced rapidly, and speculation was the order of the day. A great dam was built at Broad Ripple to furnish water to supply the canal. The work was completed from Broad Ripple to Indianapolis by the spring of 1839, and the water was turned into the canal. It took several days for the water to reach Indianapolis, as much of it was wasted by sinking into the gravel bed through which the canal had been dug. After the water was turned in at Broad Ripple the people of Indianapolis spent their days on the banks, watching for the coming of the tide to tell them that the first section of their canal was completed. . . Early in the morning they would repair to the banks, and there stand all day long until night came. Day after day they thus watched, and at last were rewarded by seeing the first ripple of the coming wave. Finally the level was full and it was ready for use."

The canal, as finally completed between Broad Ripple and Indianapolis, is approximately 8.7 miles long and has an average width of 58 feet at the top and 28 feet at the bottom with an approximate depth from top of banks of 9 feet.

[fol. 327]

DEFENDANT'S EXHIBIT 44

Audit of Boggs and Fulling of Books of Indianapolis Water Company to Dec. 31, 1914

Brief History of the Water Works Company of Indianapolis

The first history of the Company is found in Minute Record #1 Page #1, where the articles of association of the "Water Works Company of Indianapolis" are set out under date of October 7, 1869.

These articles set out that the capital stock shall be \$500,000.00 divided into ten thousand shares of \$50.00 each. The corporate existence is set at fifty years.

The following is a list of original subscribers to the capital stock:

Name	Number	Amount
James O. Woodruff.....	1	50.00
T. A. Hendricks.....	1	50.00
A. G. Porter.....	1	50.00
J. George Stilz.....	1	50.00
Geo. F. McGinnis.....	1	50.00
J. A. Comingore.....	1	50.00
Wm. Braden.....	1	50.00
Wm. M. Wiles.....	1	50.00
Jas. E. Mooney.....	1	50.00
James Braden.....	1	50.00
Wm. Wallace.....	1	50.00
Jas. H. Ruddell.....	1	50.00
Wm. R. Fishback.....	1	50.00

First Directors

Following are the first directors as set out in the Articles of Association:

Jas. O. Woodruff,	Geo. F. McGinnis,
Thomas A. Hendricks,	John A. Comingore,
Albert G. Porter,	Wm. Braden,
J. Geo. Stilz,	Wm. M. Wiley,
James E. Mooney.	

First Officers

At a directors' meeting held January 4, 1870, M. R., 1-14, the following officers were elected:

President, J. O. Woodruff.

Secretary, J. Geo. Stilz.

Treasurer, Wm. Henderson.

Mr. Henderson was elected May 31, 1870.

Contract for Equipment

On April 2, 1870, the Directors approved the action of the President [fol. 328] in contracting with the Holly Manufacturing Company for the necessary pumps, machinery and fixtures for \$50,000.00 (See page 21, of M. R., 1, for copy of contract).

Bond Issue Authorized

On May 31, 1870, M. R., 1-17, a resolution was adopted, authorizing the issue of \$350,000.00 bonds, payable in twenty years from July 1, 1870 and a sinking fund of \$7,000.00 per annum was ordered set aside. On page 20 the interest is shown as 8%.

Pipe Proposition Accepted

On May 31, 1870, the proposition of Dennis Long & Company of Louisville, Ky., to furnish fifteen miles of water mains at \$56.00 per ton be accepted. On page 20, however, the contract shows that the price was changed to \$58.50 and payment to be made in Bonds.

Pier and Abutment Contract

On page 18-19 of M. R., 2, is set out a contract with Renard and Burke of Marion County, Indiana, whereby said Renard and Burke were to furnish the material and build one abutment on each bank of Fall Creek and one pier at the intersection of the Central Canal with said Creek. The specifications are set out therein and the price was set at \$10.45 for each solid yard of masonry.

Commission on Bond Sale

On July 1, 1870, Record 1, page 25, a resolution was adopted authorizing the sale of one hundred bonds to the Insurance Company of Indianapolis, also authorizing that there be paid \$2,000.00 in bonds to each of the following persons for "Commission and Expenses in making sale of said One Hundred Bonds": Wm. Hendrow, T. A. Hendricks, Wm. Braden, Deloss Root, and James O. Woodruff.

Evidently a loan was made instead of a sale as is shown later.

Pipe Laying and Masonry Contracts

On August 1, 1870, M. R., 1, page 30, the President reported that he had contracted with Deloss Root, Esq., for the laying of fifteen miles of pipe at \$10.50 per ton; \$1.00 for every hydrant connected; \$2.00 for every gate or valve put in and ten cents per lineal foot for digging and filling.

The President also reported that he had contracted with Emerson and Beam for the construction of one thousand feet of wooden piping at \$4.00 per lineal foot.

The President also reported that he had contracted with Michael Hyland for the building of the stone foundation walls of the Water Works Building at \$6.00 per cubic yard for rubble masonry and \$10.00 per cubic yard for dimension masonry.

[fol. 329] All contracts were approved.

For itemized bill of Deloss Root, see page 52, of Minute Record 1.

\$100,000.00 Bonds to be Sold

On March 6, 1871, Record, 1, Page 46, the following resolution was adopted.

"Resolved that the Treasurer of the Water Works Company be and is hereby authorized by and with the assent of the Indianapolis Insurance Company, to sell the one hundred bonds of the Water Works Company held by said Insurance Company and to pay the loan of \$97,500.00 made by the Water Works Company from said Insurance Company on the fourteenth day of July 1870, together with all interest due thereon at the rate of ten percent per annum to the date of payment, this Company relinquishing to the Insurance Company the two and one half per cent discount made on said bonds at the time of said loan."

Bonds and Notes to Holly Manufacturing Company

On June 3, 1873 Record 1-82, a resolution was adopted to settle the claim of the Holly Manufacturing Company by paying said Holly Company \$15,000.00 in Second Mortgage Bonds and \$30,000.00 in Third Mortgage Bonds or notes in form substantially the same as the Second Mortgage at same rate of interest, payable \$5,000.00 a year in three, four, five, six, seven and eight years from date, to be secured by a mortgage.

Refunding Bond Issue

On July 13, 1874 a refunding bond issue of \$500,000.00 was authorized, bearing 8% interest and payable in twenty years from August 1, 1874. Wm. Henderson was made Trustee, and a trust deed to him was authorized. The proceeds of said issue to be used in redeeming the second mortgage bonds now outstanding and the balance in improving the plant.

Third Mortgage, \$150,000.00 Bonds Authorized

On July 17, 1875, Record 1, Page 104, a resolution was adopted authorizing an issue of 150 bonds of \$1,000.00 each, payable in twenty years from August 1, 1875, and bearing interest at 8% per annum. The proceeds to be used in improving the plant.

The Indianapolis Insurance Company was designated as Trustee of a sinking fund to be established to meet said bonds.

Financial Difficulties

In 1877-8, the Company became involved in Financial Difficulties and failed to meet the interest on its Second and Third Mortgage Bonds. Meetings were held with the Creditors and it was agreed that the interest coupons should be refunded for Five years and certificates bearing 8% issued; also to turn the management over to a Committee representing the holders of the Second Mortgage Bonds and a liquidation of floating debt by issuing Income Bonds in lieu thereof; also to raise funds by an assessment of \$10.00 on each bond. [fol. 330] The salaries of the President and Treasurer were ordered discontinued after April 30, 1878 and the by-laws were revised, and new officers elected. All as set out in Minute Record 1, pp. 142-168.

The minute record shows various sessions of directors and stockholders up to October 6, 1880—page 193, when officers were elected.

The next meeting recorded is on page 195 when the Indianapolis Water Company came into existence in April 23, 1881.

Brief History of the Indianapolis Water Company

The Indianapolis Water Company was incorporated on April 23, 1881 with the following persons named as directors:

John M. Denison,	T. Edward Hambleton,
A. W. Hendricks,	Oscar B. Hord,
Conrad Baker,	Albert Baker,
F. A. W. Davis,	Sidney M. Dyer,
Christopher Heckman,	John H. Langdon,
E. Delavan Woodruff,	John C. New,
and Ingram Fletcher.	

The following officers were elected:

President, T. Edward Hambleton.
 Vice-President, Sidney M. Dyer.
 Secretary, John H. Langdon.
 Treasurer, F. A. W. Davis.

Among other things, the certificate of incorporation sets out that on March 15, 1881, Wm. Henderson, Trustee, was plaintiff in a case against the Water Works Company of Indianapolis, in the Marion County Superior Court, Cause #26,655½ and a final decree was rendered by said Court foreclosing certain mortgages

and ordering the property and franchises sold. Afterwards, on April 18, 1881, a Judicial Public Sale was made to the Indianapolis Water Company.

The capital stock was set at \$500,000.00 divided into ten thousand shares of \$50.00 each. By-laws were adopted, page 206

Bondholders' Agreement and Bond Issue

At a directors' meeting April 23, 1881, Messrs. Hambleton and Dennison presented the following agreement:

This memorandum of An Agreement made this fifth day of January, in the year of our Lord one thousand eight hundred and eighty, by the undersigned, who are respectively holders and owners of the First Mortgage Bonds, of the intermediate or Holly Mortgage and Mortgage Notes, and the Second Mortgage Bonds of the Water Works Company of Indianapolis.

Whereas, it has become necessary for the common protection of the bondholders of both classes and mortgage noteholders aforesaid, that all the property, estate, rights privileges and franchises covered by the said mortgages shall be sold, and it has been proposed that proceedings should be had in the names of and on behalf of the First Mortgage Bondholders, or some of them, to procure a decree for such sale, or to cause proceedings to be instituted for the foreclosure of the First Mortgage, and for sale of the mortgage property, without costs, fees or expenses, either to the said First Mortgage Bondholders, or the holder of the Holly Mortgage, and that the said property, estate, [fol. 331] rights, privileges, and franchises, should be purchased by or on behalf of the Second Mortgage Bondholders who may execute this agreement, for the purpose of reorganization as hereinafter stated. And that, when such purchase shall have been affected, or sooner, a new incorporation shall be obtained in accordance with the laws of Indiana, of a company with a capital stock of Five Hundred Thousand Dollars, and that the title to all the said property, estate, rights, privileges and franchises, so to be purchased, shall be vested in said new corporation, and it shall then execute to T. Edward Hambleton and John M. Denison, of Baltimore City, and E. D. Woodruff of Auburn, New York, a First Mortgage upon the said property and assets, rights and franchises, to be conveyed to it, and which it may own whencesoever devied and all its after to-be acquired property, net revenues, rents and profits, so far as such conveyance may be legal, to secure the payment of Five Hundred Thousand Dollars of the coupon bonds of the Company payable thirty years after date, with six per centum interest, payable in semi-annual installments, the form of the bonds, coupons and mortgages, to be acceptable to said mortgage-s. And that Three Hundred and Fifty Thousand Dollars of said bonds, with their coupons, shall be issued to the holders of said First Mortgage Bonds, in lieu of those of the said Water Works Company, now held by them, and fifteen thousand thereof to the holders of the Holly Mortgage and Mortgage Notes, and that the other One Hundred and Thirty-five Thousand Dollars of said new issue of bonds shall be taken at par and paid for in cash

by the Second Mortgage Bondholders who execute this paper, in proportion to their holdings of such Second Mortgage Bonds, in order to provide means to pay the legal and other expenses of such legal proceedings and sale, and the expenses incident to carrying out this agreement and the objects thereof, and for the betterment and improvement of the works and property of the Company.

Now, in consideration of the premises, and in order to carry out such proposition, which has been acceded to by all parties hereto, the undersigned do interchangeably covenant and agree (being owners and holders of the bonds of the classes set opposite to their respective names, with their coupons, and to the amounts so stated, and of said Holly Mortgage Notes), to and with each other, each for himself, and not one for the other, that the said T. Edward Hambleton, John M. Denison and E. D. Woodruff are hereby constituted and appointed the attorneys in fact and agents of the parties hereto, for the purposes herein stated, without power of revocation; and in case of the death, refusal to act or resignation of either of said parties, the two surviving, or acting and remaining, shall appoint another person; and in case other vacancies occur, they shall be from time to time supplied in like manner, and the three persons so constituted shall be the agents and attorneys, with all powers given in this instrument to the parties above named, and also trustees under the mortgage.

And it is further agree, that said attorneys and agents shall in the names of all, or any part of the First Mortgage Bondholders aforesaid, who may execute this agreement, proceed in such manner as they may be advised by counsel to be proper, to procure a decree for sale of all the property, franchises, rights and privileges, and estate of every description embraced under said first mortgage of said Water Works Company, whether by a request under the terms of the first mortgage to the trustees thereunder to foreclose or otherwise, and cause the same to be sold, and purchase the same for and on behalf of the said Second Mortgage Bondholders who may execute this agreement, the whole title, however, to be taken by said Hambleton, Denison and Woodruff, as by a corporation to be created for the purposes herein stated; and the said attorneys and agents shall cause an incorporation to be procured of a Company, with a Capital Stock of Five Hundred Thousand Dollars, which shall possess, as nearly as [fol. 332] may be practicable, the same powers as the said Water Works Company, and such other powers as they may deem advisable. And when the title to the property, estate, rights and franchises so purchased shall have been vested in it, said Company shall execute a first mortgage of the same, and of any other property, and of its after to be acquired property, net revenue, rents and profits, so far as may be lawful, and of everything which it may be at liberty to convey, by way of mortgage, under the laws of Indiana, to secure its bonds and coupons to the amount of Five Hundred Thousand Dollars, payable thirty years after date, with six per centum interest, payable semi-annually—the form of said bonds, coupons and mortgage to be approved by said attorneys and agents, who are also to be the trustees under the mortgage.

And it is further agreed, that Three Hundred and Fifty Thousand Dollars of the said new First Mortgage Bonds shall then at once be substituted for a like amount of the said present First Mortgage Bonds, fifteen thousand dollars thereof be received in full settlement by the holder of the Holly Mortgage Notes, and the other of said new First Mortgage Bonds shall be taken at par and paid for in cash, in the manner hereinafter stated, as soon as the same are ready for delivery by the Second Mortgage Bondholders, who may execute this agreement, in the proportion which the amount of such Second Mortgage Bonds, held by each signer hereto, bears to the entire aggregate amount of such Second Mortgage Bonds held by all signers hereto.

And it is further understood, that provisions shall be made by the said new corporation, or by the holders of its capital stock, that all of the said capital stock, except such part not exceeding Fifty Thousand Dollars thereof as it may be necessary to use for organization, shall be divided among the Second Mortgage Signers hereof, in proportion to the amount of said new bonds they may accept and pay for, and upon payment for said bonds such signers shall be entitled to a contemporaneous transfer of the said stock, but the right to obtain such proportionate amount of said capital stock shall be lost to any of such Second Mortgage Bondholders who shall fail to pay for their proportionate amount of the said bonds within the period of ten days after they shall have been served by a written or printed demand therefor by such attorneys or agents. And as it is necessary that means shall be raised for the payment of fees and other expenses connected with the necessary judicial and other proceedings, and for carrying out the purposes of this Agreement, it is the understanding that the said attorneys and trustees shall receive the said one hundred and thirty-five thousand First Mortgage Bonds from said new Company at the par value thereof, less the amount of said expenses, and the said Second Mortgage Bondholders shall receive and pay for the same to said attorneys and agents at said par value, so as to leave in the hands of said attorneys and agents an amount equal to said fees, and expenses; and in order to provide a fund immediately available for the purpose aforesaid, each holder of any Second Mortgage Bond executing this instrument shall, when he deposits his Second Mortgage Bonds with the Safe Deposit and Trust Company of Baltimore, as hereinafter stated, pay to it the sum of Ten Dollars on each One Thousand dollars of said bonds, and said sums shall be paid by said Company at once to said attorneys or agents to be employed for the purpose aforesaid. And any sums so paid shall be credit to the parties on the purchase money for the new First Mortgage Bonds so to be purchased by them.

And it is further agreed, that in order to insure the certain performance of all the stipulations hereof by all the parties executing this contract, each of said signers will on or before the twenty-eighth day of February next, deposit with said Safe Deposit and [fol. 333] Trust Company of Baltimore all his bonds and coupons, and make the payment on said Second Mortgage Bonds aforesaid,

and any person who may fail to deposit his bonds and make said payment within the period aforesaid, shall, unless said attorneys and agents otherwise determine, forfeit all rights hereunder, and be treated as no party hereto. And the said bonds shall be held by said Safe Deposit and Trust Company subject to the terms of this contract—the holder receiving for the same a certificate of said Company in the form as shown by a blank thereof hereto attached. And at the time that the Second Mortgage Bondholders receive their certificates of shares of capital stock as herein provided from said attorneys and agents, as a condition precedent to receiving the same, they shall deliver to them the certificates so issued for said Second Mortgage Bonds, and said certificates shall then by them be returned to said Safe Deposit and Trust Company, and said Second Mortgage Bonds and Coupons shall be destroyed by said attorneys or agents in the presence of one of the officers of said Safe Deposit and Trust Company. And in order to place the title in condition for the execution of such new First Mortgage, it is agreed that the First Mortgage Bonds and Coupons so deposited shall be used for the purpose of making payment for the purchase money under the sale to be made, in accordance with any decree or order of any court, or any understanding with the trustees or other parties making the sale. And said First Mortgage Bonds and coupons shall be held by said Safe Deposit and Trust Company subject to the joint order of said attorneys or agents, or any two of them, to be used by them, or under their direction and supervision, in making said payment; and said Safe Deposit and Trust Company, before delivery of said bonds and coupons to said attorneys and agents, shall be satisfied that a decree or order has been passed authorizing an agreement made for the use of such bonds for said payment, and that the sale has been made for the price stated to it by said committee; but no responsibility shall be incurred by said Safe Deposit and Trust Company in placing said bonds in the hands of said attorneys or agents, save the exercise of ordinary diligence in the ascertainment of said facts. And said First Mortgage Bondholders hereby constitute said Safe Deposit and Trust Company their agent and attorney, irrevocable, to receive, in lieu thereof, a like amount of First Mortgage Bonds of such new corporation.

And it is agreed, That the terms of the certificates, so to be issued, shall be gratified by the return to the holder thereof of the New First Mortgage Bonds. And the parties hereto constitute the said Attorneys and Agents hereinbefore constituted, their attorneys in fact to make demand in writing upon the trustees under the said existing first mortgage, to take judicial proceedings for the foreclosure of the same.

And it is further understood, that if the said attorneys and agents can obtain control of the charter of the said Water Works Company, and in their opinion it can be used as well as a new corporation for the purposes herein stated, and said amount of Capital Stock can be issued thereunder, then all the provisions herein in relation to a new corporation shall be applicable to it.

All copies of this instrument which shall be signed by the appropriate parties, and delivered to the said Hambleton, Denison and Woodruff, or Safe Deposit and Trust, are to be taken together as one instrument, with the like legal effect as if all the signatures were on a single paper.

Witness the hands and seals of the parties.

On motion of Mr. Denison, the following preamble and resolutions offered by Mr. Hendricks were adopted. Messrs. T. Edward Hambleton and John M. Denison having submitted to the Board a copy [fol. 334] of a Contract dated January 5th, 1880, made between the holders of all except thirty-eight of the first mortgage bonds of the Water Works Company of Indianapolis, and the holders of all the mortgage notes of that Company, known as the Holly Mortgage Notes, and the holders of all of the mortgage bonds of that Company dated August 1st, 1874, known as its Second Mortgage Bonds, by which Contract said Hambleton, Denison and E. Delavan Woodruff were constituted the agents and attorneys in fact of the holders of said mortgage bonds and notes, with power to exchange said bonds and notes with the Securities of a new Company to be organized as this Company has been organized in the place of said pre-existing Water Works Company, upon the terms and conditions therein mentioned. Said contract being all that printed matter immediately preceding this preamble.

Resolved, First: That this Company does adopt and approve the contract of January 5th, 1880, between the First and Second Mortgage Bondholders, and the mortgage note holders of the Water Works Company of Indianapolis, a copy of which has been presented to the Board of Messrs. Hambleton and Denison, and that this Company will upon its part observe and perform all the terms and conditions thereof; Except that inasmuch as a Statute of the State attempts to make it unlawful to designate non-residents of the State as trustees in mortgages, the Mortgage provided for in said Contract shall be made to citizens of the State:

Second. That for the purposes mentioned in said Contract, this Company will make and issue its five hundred Corporate Bonds for One Thousand Dollars each bearing date of April 30th, 1881, payable without relief from valuation or appraisement laws, thirty years after May 1st, 1881, to Oscar B. Hord and A. W. Hendricks or bearer, with interest at the rate of six per centum per annum payable Semi-annually on the first days of May and November of each year, for which interest coupons shall be annexed both interest and principal payable at the Safe Deposit and Trust Company in the City of Baltimore, State of Maryland, or such other place as the Committee hereinafter mentioned, may designate.

Said bonds shall be secured equally and without preference, by a Mortgage upon all the property and franchises of the Company, whether now owned or hereafter to be acquired by it.

The mortgage shall be made by Oscar B. Hord and Abram W. Hendricks as trustees for the purchasers and holders of the bonds, and shall contain such provisions and conditions, commonly con-

tained in trust mortgages, as to the Committee hereinafter named shall seem fit.

Both the bonds and the mortgage, shall be executed under the Corporate Seal of the Company, and be signed by the President and countersigned by the Secretary.

The coupons shall bear the printed signature of the Secretary.

Said mortgage shall contain such provisions for the creation of a Sinking Fund as may be determined upon by Messrs. Hambleton and Denison the Committee hereinafter named.

Third. That Messrs. Hambleton and Denison be appointed a Committee to supervise the preparation for execution of the bonds and mortgage, and of Stock Certificates, and also when the same are executed, to deliver the stock and bonds to the parties entitled under the above mentioned contract, to receive the same.

On motion of Mr. Denison the President was authorized to appoint two Members of the Board, who with himself were constituted a committee to report a series of By-laws for the Company, with instructions to report at next meeting of Directors.

President Hambleton named Messrs. Denison and Dyer to act with himself as such Committee.

On motion of Mr. Davis the following resolution was adopted: [fol. 335] Resolved: That Messrs. Hambleton, Denison and Woodruff the Committee of Mortgage Creditors named in the Contract above mentioned, they or any two of them, are hereby authorized to use any moneys now in their hands, or that may hereafter come into their hands, in paying the past due Coupons of the First Mortgage Bonds of the Water Works Company of Indianapolis.

On motion of Mr. Denison, the Vice-President of the Company was authorized to act as managing director and given full control of the property of the Company.

On motion of Gov. Baker a seal for the Corporation was presented and adopted, an impression of which seal is enstamped upon this page.

On motion adjourned to meet May 25, 1881.

(Signed) John H. Langdon, Secretary.

Salaries are Fixed

On May 28, 1881, Record 1, page 212, the following salaries were fixed:

Vice-President	\$1,800.00	per year.
Secretary	1,200.00	" "
Supt. of Hydrants	1,000.00	" "
Engineer at Works	1,500.00	" "

Bonus for Services

On May 28, 1881, Record 1, page 213, the following resolution was adopted:

Resolved, that the thanks of the stock and bondholders of the Water Works of Indianapolis are due to Messrs. Hambleton, Denison and Woodruff, Trustees, who have so ably conducted the affairs of the Company for the last three years and who have brought their labors to such a satisfactory conclusion by the successful organization of the Indianapolis Water Company and

Resolved: That the Board of Directors of the Indianapolis Water Company in recognition of and compensation for said services, authorize the said Trustees to retain from the securities now in their keeping—Ten (10) First Mortgage Bonds of \$1,000.00 each and all of the stock that may remain after payment to the Bond and Stockholders of the Water Works Company of Indianapolis, according to the plan of reorganization to wit: 90% of the principal of the Second Mortgage Bonds and 10% of the principal of the Third Mortgage Bonds and 5% of the par of the stock.

New Boilers, Pipe, etc.

On July 21, 1881, Record 1, page 215 an order was entered to purchase two new boilers to cost not to exceed \$4,000.00 each. The contract with the Cincinnati and Newport Iron and Pipe Company for delivery at Indianapolis, of 3,500 feet of thirty inch and 7,000 feet of six inch water pipe at \$33.90 per ton of 2,000 pounds was approved.

The purchase of 18 acres, more or less from Mrs. Fondray was approved.

The purchase of two rotary pumps, to replace old ones, for \$1,600 was also approved.

[fol. 336]

Report of Bondholders' Committee

At a directors' meeting held October 24, 1881, the following proceedings were had:

"Meeting called to order. On account of absence of President in Baltimore, Vice President Dyer in the chair.

Present Messrs. Baker, Hord, Hendricks, Davis, Heckman, Dyer and Langdon.

Minutes of last meeting read and approved:

The object of the meeting, being the consideration of the report of the Bondholders Committee Messrs. Hambleton, Denison and Woodruff in the matter of settlement with the creditors of the W. W. Co. of Indianapolis of which this Company is by purchase the Successor. In order to show the entire transaction of the Committee in the disposition of the bonds of this Company per instructions of the Board at their meeting April 23, 1881, the following preamble and resolution was offered by Mr. Davis, viz:

Whereas, Messrs. Hambleton, Denison and Woodruff submit their report of the disposition of the Bonds of the Company, and the application of the proceeds thereof, showing a balance due the Company of \$6,360.00 on account of the Bonds and \$4,880.73 from

other sources per report herewith making a total balance due the Company at this date of \$11,240.73 as per reports as follows: (here follows detailed report which for brevity is omitted from the transcript.)

Upon motion of Mr. Davis, seconded by Gov. Baker, the reports hereinbefore set forth are hereby approved, and upon the payment of the said balance \$11,240.73 into the treasury of the Company, it is ordered that all accounts between the Committee and each member thereof, and this Company of whatever kind or nature, including all claims by the Committee or any member thereof for services rendered or money expended for or on behalf of the Company, are hereby declared to be fully settled and adjusted—adopted.

It was further ordered that a copy of above resolutions be forwarded to each member of the Committee.

\$23,800.00 for New Pumps

On July 23, 1883, M. R. 2, 77, the President was authorized to enter into contract with the Holly Manufacturing Company of Lockport, N. Y. for two new pumping machines for \$23,800.00. Said pumps to be guaranteed to perform the service of pumping at the rate of five million gallons each daily at forty-five pounds pressure or performing a combined service of ten million gallons daily at forty-five pounds pressure; also to furnish a fire pressure of one hundred twenty-five pounds to the square inch when driven by turbines and pumping not less than nine million gallons daily. Additional pumping machinery was purchased in June 1889 for \$46,000.00.

Second-mortgage Bonds

On August 3, 1883, Record 2 — 81 an issue of \$100,000.00 Second Mortgage Bonds were authorized. Said bonds to bear 6% interest and payable ten years from date, but redeemable after five years. Proceeds to be used in improving the plant.

[fol. 337]

First Dividend Declared

On July 18, 1885, Record 2, page 182, a motion was adopted authorizing a dividend of fifty cents per share on the capital stock of the Company. Other dividends were made later as shown in income accounts.

\$500,000.00 Funding Bond Issue and \$200,000.00 Bond Dividend

On December 28, 1889, Record 3, page 78, a resolution was adopted authorizing an issue of \$500,000.00 bonds. Said bonds to be dated January 1, 1890, to bear 5% interest and run twenty years, but redeemable after January 1, 1895. The directors were directed by the stockholders "to take up the outstanding second mortgage bonds and to use \$200,000.00 of said bonds by delivering them to the stockholders as a 40% dividend for and in account of earnings

heretofore diverted to betterments, and to hold the remainder of said bonds to be devoted to any lawful and proper future need of the Company." (See Minute Record 3 pp. 70-79 for detailed financial statement of betterments during year- 1881 to 1890 and upon which above bond dividend was made.)

Purchase of Present Office Site

On February 21, 1891, Record 3, page 128 is shown the purchase of the present office site at #113 Monument Place being seventy-four feet and two inches on Circle Street and being a part of Lot #13 in Square #45.

The property was bought from the Trustees of the Protestant Episcopal Church of the Diocese of Indiana and the consideration was \$35,900.00.

\$100,000.00 Bond Dividend

On July 19, 1892, Record 3 page 198, a resolution was adopted authorizing a bond dividend of \$100,000.00, said dividend being a "twenty percent. betterment dividend" payable in Funding Bonds of the issue bearing date of January 1, 1890.

Money Invested in Gas Company

On January 17, 1893, Record 3 page 205 "Mr. Davis presented to the Board (of Directors) his report as Treasurer of the Manufacturers Natural Gas Company which was accepted * * * The report showed that the Water Company has of the First Mortgage Bonds, \$25,000.00 and of the stock \$25,000.00.

\$100,000.00 Bond Dividend

On September 18, 1894, record 3 page 266, a resolution was adopted authorizing a bond dividend of \$100,000.00 said dividend being a "Twenty percent betterment dividend" payable in Funding Bonds of the issue bearing date of January 1, 1890.

[fol. 338] Twenty-million-gallon Pump

On February 14, 1895, record 3, page 292, a contract was awarded the Snow Steam Pump Works for a verticle triple expansion pumping engine of 20,000,000 gallons capacity for \$70,000.00.

\$50,000.00 Bond Dividend

On September 30, 1895, Record 3 page 334, a resolution was adopted authorizing a bond dividend of \$50,000.00 said dividend being a "ten percent betterment dividend" payable in Funding Bonds bearing date of January 1, 1890.

Sinking Fund Bonds Ordered Sold

On April 18, 1896, Record 4, page 24, a resolution was adopted to sell at par \$100,000.00 of the Funding Bonds formerly issued but now held by the Company in its Sinking Fund.

\$3,000,000.00 Refunding Bonds

At a Directors' Meeting held July 18, 1896, Record 4, page 36, a resolution was adopted authorizing a \$3,000,000.00 bond issue. Said bonds to be in denominations of \$1,000.00 each, dated July 1, 1896, bearing 5% and payable thirty years after date, but redeemable after July 1, 1911. These bonds to be used in taking up the First Mortgage bonds of April 30, 1881, and the Funding Mortgage Bonds of January 1, 1890.

A Sinking Fund was ordered established to meet the bonds when they came due.

Additional Bond Dividends

In 1896 and 1897 there was paid \$100,000.00 Bond Dividends each year.

\$150,000.00 Bond Dividend

On April 19, 1898, record 4, page 106, a bond dividend of \$150,000.00 was authorized.

\$100,000.00 Bond Dividend

On April 19, 1899, Record 4, page 141, a bond dividend of \$100,000.00 was authorized.

Consulting Engineer's Appraisal

Under date of May 31, 1900, Minute Record 4, page 162, Mr. G. H. Benzenberg, a Consulting Engineer of Milwaukee, submitted a report of the estimated value of the physical properties of the company as follows:

Milwaukee May 31, 1900.

Mr. F. A. W. Davis, Vice-President Indianapolis Water Company.

DEAR SIR: In compliance with your request, made March 15th, 1900, to prepare in a general way an estimate of the value of the physical properties of the Indianapolis Water Company, I herewith transmit such statement under date of March 30th, 1900.

In order to properly arrive at the values of the various parts of [fol. 339] the works, it was estimated what it would cost to reproduce the existing works at the time of your request and deduct therefrom such amounts as would in each case represent the depreciation which such parts had suffered through time of service or both or

by virtue of being intimately connected with or dependent upon parts which have so depreciated.

Much of the data, especially schedule of the invisible parts, necessary to determine the cost of reproduction, were furnished by you, while a list of the other parts was obtained from personal visits to and inquiries at the works.

The statement hereto attached contains in general form a list of such physical properties and their values, based upon their present condition, so far as the same was determined by personal examinations, or upon conclusions derived from similar investigations or from a general knowledge and experience of operating water works.

The prices to determine the cost of reproduction were those quoted at lettings, or furnished upon application and based upon current prices of material and labor, while values of the last two items upon the list were accepted as furnished by you.

	Present cost to replace	Depreciation	Present values
Total Number of tons water pipe over four inches in diameter and including hydrant connections in the distribution system, less 1% loss on pipe cutting 26,784.337.....	802,450.11	96,294.02	706,156.09
Same of four inch and under 1,012.415.....	31,384.86	3,766.18	27,618.68
One percent of pipe loss less value, scrap.....	4,206.16	.....	4,206.16
Special castings in the system 774,132 tons.....	46,267.92	5,552.14	40,715.78
Hauling Pipe & specials.....	1,878.75	225.57	1,653.18
Laying of all pipe in the system including selling hydrants, valves, valve boxes, lead, yarn, labor, etc.....	399,228.47	47,907.42	351,321.05
Additional price for River Crossings.....	4,636.00	556.32	4,079.68
Additional price for protection of track crossings.....	3,159.00	379.08	2,779.92
1,452 Valves of various sizes.....	16,950.50	3,390.10	13,560.40
1,452 valve boxes.....	6,679.20	1,335.84	5,343.36
1,727 Hydrants of various kinds.....	51,986.50	10,397.30	41,589.20
Hauling valves, boxes & hydrants.....	1,226.50	245.30	981.20
Relaying street pavements over present pipe lines.....	309,132.75	.....	309,132.75
Delivery and suction mains and valves at pumping stations.....	12,613.11	1,453.17	11,159.94
Rockwells, delivery mains, air pipes specials and connections complete	40,427.32	2,607.33	37,819.99
Galley reservoir, suction and gate wells, valves, screens, etc.....	29,378.63	1,235.05	28,143.58
Upper and lower pumping stations, including pump and gate wells at tower station.....	92,458.40	5,313.60	87,144.80
[fol. 340] Engine & boiler foundations.....	19,317.16	1,905.00	17,412.16
Pumping Machinery.....	260,000.00	28,700.00	231,300.00
Boilers, steam pipes, valves & connections.....	39,900.00	3,982.00	35,918.00
Air Compressors & receivers.....	26,600.00	2,660.00	23,940.00

Statement of Estimated Values of the Physical Properties of the Indianapolis Water Company—Continued

	Present cost to replace	Depreciation	Present values
Electric Lighting plant, wiring and lamps.....	3,850.00	200.00	3,650.00
Turbine Water Wheels, steel flume, valves, etc.....	27,075.52	2,103.78	24,971.74
Water Meters, service taps, branches drinking fountains, etc.....	91,232.70	9,930.04	81,302.66
Dykes & drains at Riverside Park.....	8,000.00	540.00	7,460.00
Engineering & Superintendence.....	.....	.....	209,936.03
Stock, tools, supplies, etc.....	.....	.....	44,741.48
Canal Property.....	.....	.....	478,000.00
Real Estate.....	.....	.....	250,000.00
Total	<u>2,330,039.56</u>	<u>230,679.24</u>	<u>3,082,037.83</u>

(Signed) G. H. Benzenberg, Consulting Engineer.

One Million Thirty-Year Gold Bond Issue and \$500,000.00 Bond Dividend

On April 26, 1900, Record 4, page 168, a resolution was adopted authorizing an issue of one thousand bonds of \$1,000.00 each, aggregating \$1,000,000.00, dated June 30, 1900, bearing 4½ % interest and due July 1, 1930.

On page 169, is set out a resolution declaring a one hundred percent dividend upon the capital stock of the company, payable in the above 4½ % bonds dated June 30, 1900.

\$100,000.00 Bond Dividend

On January 24, 1901, Record 4, page 226, a bond dividend of \$100,000.00 was authorized.

\$100,000.00 Bond Dividend

On August 13, 1901, Record four, page 241, a bond dividend of \$100,000.00 was authorized (?)

Offer to Buy Brightwood Water Works

On April 15, 1902, record 4, page 257, the officers of the Company were authorized to purchase the Brightwood Water Works Plant and system for \$25,000.00 in cash, providing a clear title could be furnished.

\$100,000.00 Bond Dividend

On July 2, 1902, Record 4, page 268, a bond dividend of \$100,000.00 was authorized.

Filter Plant

On October 13, 1902, record 4, page 271, contracts for a Filter [fol. 341] Plant which had been entered into with the U. S. Sand Filtration Company, were presented, in brief as follows:

Item #1, Sand Filtration System.....	\$279,506.00
Item #12, Concrete Conduit.....	48,512.00

\$50,000.00 Bond Dividend

On July 7, 1904, Record 4, 357, a bond dividend of \$50,000.00 was declared.

Indianapolis Water Company

Cost of Aqueduct

In M. R. 5, 1, June 1, 1905, is shown a report on the cost of the aqueduct as follows:

Cost		\$55,144.55
Less Credits, Cableway, etc.....	\$2,866.70	
Concrete Mixer.....	869.47	
Pumps.....	412.82	
Boilers.....	250.00	
Lumber, 50% of Cost.....	2,000.00	
Work on tow-path and cleaning out Canal..	651.89	
Cash for Second-hand Material—Old Aqueduct	750.00	7,800.88
Net Cost.....		\$47,343.67

This aqueduct is a four span structure approximately 300 feet long, 41 feet wide and having a water way of 36 feet.

Salaries are Fixed

On Nov. 15, 1905, M. R. 5, 17, a Resolution was adopted fixing the following per annum salaries:

Pres. and Treas. (Held by one man).....	\$10,000.00
Vice President.....	7,500.00
Secretary.....	7,500.00

One Hundred per Cent. Bond Dividend

On March 29, 1906, M. R. 5, 23, a Resolution was adopted declaring a One Hundred Per cent. (\$500,000.00) dividend payable in 4½% Gold Bonds of April, 1900.

Other dividends were made later as shown in Income Accounts.

Mooney Farm Purchased

On April 25, 1907, M. R. 5, 41, a Resolution was adopted to purchase the farm held in trust by James Mooney of Cincinnati, containing about 140 acres and located on both sides of the Canal just north of the Country Club for \$50,000.00. Mr. Boyd and Mr. H. McK. Landon agreeing to pay \$20,000.00 and the Water Company to pay \$30,000.00. It was also agreed that the Water Company would take 100 acres of the low lands and Messrs. Boyd and Landon would take 40 acres of the high land. The land held by the Company was purchased as a reservoir site.

New Office Building

On May 18, 1907, M. R. 5, 45, bids were opened for a new office building (addition to the old) and the contract was awarded to C. J. Aufderheide for \$9,525.00.

[fol. 343] Interest on Meter Deposits

On Jan. 17, 1908, M. R. 5, 53, it was decided to pay 3% interest per annum on meter deposits.

Ten-million-dollar Mortgage and Bond Issue

On Feb. 4, 1910, M. R. 5, 99, the directors adopted a resolution authorizing a \$10,000,000.00 Mortgage and Bond issue, said bonds to be dated Jan. 1, 1910, bearing $4\frac{1}{2}\%$ interest and to be known as "First and Refunding Mortgage of the Indianapolis Water Company," said bonds to be in denomination of \$1,000.00 each, due in 30 years, but may be called for payment at any interest paying period at a premium of 4%, \$3,900,000.00 of the new issue to be set apart for refunding the three outstanding issues by exchange or purchase.

Three Hundred of the new issue to be set apart for use in taking care of discount, premium and expenses by way of purchase or exchange in refunding the underlying issues.

The remaining \$5,800,000 to be used to reimburse the Company to the amount of 80% of expenditures for betterments and extensions to property account.

"The mortgage covers all the property of the Company now owned or that may hereafter be acquired, excepting the lot where the office is now located and about sixty four or five acres adjacent to Riverside Park. The latter real estate was reserved from the mortgage for the reason that it is probable that a Public Utility Commission would not give us credit for the same in our Capital Account as a property useful and necessary in conducting our business."

"Owing to its location and value, it will be necessary to handle the former property to increase its earning ability at some period early in the life of the new mortgage."

160% Bond Dividend

On July 6, 1910, M. R. 5, 117, a resolution was adopted declaring a 160% (\$800,000.00) dividend payable in bonds.

Capital Stock Increased to Five Million Dollars

On Nov. 4, 1910, M. R. 5, 122, a resolution was adopted, by the Stockholders, to increase the capital stock from \$500,000.00 (all common) to \$5,000,000.00, common, divided into 100,000 shares of \$50.00 each, par value. This action was approved by the directors M. R. 5, 125.

Depreciation Fund and Investment

At a Directors' Meeting held Nov. 6, 1910, M. R. 5, 128, President Boyd informed the board that on Sept. 14, 1910, there had been placed in the Company's Depreciation Fund, the sum of \$20,000.00 and this amount had been deposited with the Indiana Trust Company.

The Treasurer reported that the Company had been offered \$16,500.00 face value of the Company's First Mortgage 6% bonds at 100½ as of November 1. These bonds were not offered for exchange, [fol. 344] and the Treasurer recommended that these bonds be purchased for the Depreciation Fund which action was authorized by resolution.

\$4,500,000.00 Stock Dividend

On Dec. 15, 1910, M. R. 5, 130, the Directors adopted a resolution declaring a dividend of \$4,500,000.00 upon the \$500,000.00 capital stock then outstanding. Said dividend being payable in the unissued capital stock, at par, authorized in Nov. 1910. Said stock dividend to be charged against surplus or undivided profits.

White River Light & Power Company

On Jan. 5, 1912, M. R. 5, 160, the President reported that he had purchased 300 shares, or one half the capital stock of the White River Light and Power Company, for the use and benefit of the Indianapolis Water Company, for the sum of \$10,286.26.

"A record of the origin of this property and our reasons for acquiring an interest would not be out of place at this time.

Some five years ago, the Noblesville Hydraulic Power Co. was organized to acquire property and construct a dam on White River, at a point about two miles north of Noblesville, for the purpose of furnishing power to generate electric current for the sale in Noblesville and nearby towns. This first organization had more or less trouble in the way of litigation among the shareholders. After expending in the neighborhood of \$100,000.00, the Company went into a re-organization scheme, the outgrowth of which was the White River Light & Power Co. This new Company succeeded in getting new money for their enterprise, and expended from Sixty to Seventy Thousand Dollars in work upon their dam, auxiliary power plant, etc., until they reached a point where they were unable to interest additional capital. They at that time had a floating debt of in the neighborhood of \$30,000.00, and the dam, I should say, was from one-half to sixty per cent. completed. With their expenditure of about \$170,000.00 and the increase in their capitalization, resulting from their re-organization, they found that their capitalization was much too great for their estimated gross earnings. The creditors began pressing them for settlement, which threw the Company into bankruptcy early in the year 1911. It was the intention of the organizers of the scheme, and so set out in their prospectus, that in times of low water in White River they would impound all the water

in the river for as much as eight days, which according to their figures would give them sufficient power to carry them through the dryest seasons or the seasons of very low water. It was at this juncture that our Company became interested in the enterprise, and its officers have not only had their eye upon it for the last five years, but have visited the plant upon several occasions and watched the progress of the work, and when we found that an expenditure of \$10,000.00 would forever protect our interests at this point, we felt it good business to own a one-half interest in the White River Corporation.

Mr. Boyd further reported to the Board that in compliance with instructions received from the Executive Committee at their meeting held Sept. 6, the property known as Brighton Beach, located near our filtration plant, had been purchased by this Company and that a deed therefor, dated Nov. 9, 1911, had been received from the Indianapolis [fol. 345] Brewing Company. Under the terms of this deed, our Company paid to the Indianapolis Brewing Company \$16,250.00 for this property, but the grantor reserves possession of the property and retains all rents, incomes and profits therefor up to and including Dec. 31, 1912, the grantor paying all taxes accruing on said real estate payable in the years 1912 and 1913."

Apparent Change in Ownership

While the minute record does not set out directly the fact that there was any change in ownership of the stock of the Company, the Directors' Meeting of November 18, 1912, was evidently the last one of the old regime, because at the meeting of January 20, 1913, M. R. 5, 184, the President stated that Messrs. E. T. Kimball, C. H. Payson, Herbert Payson and E. R. Payson were no longer Stockholders of the Company and therefore not qualified to act as Directors. Their places were declared vacant and the following were selected in their places, viz: Messrs. C. H. Geist; F. C. Jordan; Jos A. Slattery; C. L. Kirk.

At a meeting held January 21, 1913, M. R. 5, 191, the resignation of L. C. Boyd as President was presented and C. H. Geist was elected to fill the place.

An office was ordered established at No. 1127 Land Title Building in Philadelphia.

It was resolved that from the close of the present day's business, no salary shall attach to the offices of Vice-President and Treasurer.

The office of General Manager was created and Mr. C. L. Kirk was chosen as such and his salary fixed at \$6,000.00 per annum.

New Directors were also elected M. R. 5, 199, and these Directors, on February 27, 1913, elected the following officers:

- President, C. H. Geist;
- Vice President, C. L. Kirk;
- Secretary, F. C. Jordan;
- Ass't Secretary, C. H. Weak;
- Treasurer, H. W. Lang;
- Ass't Treasurer, E. C. Leible.

Change in Officers

On April 30, 1913, M. R. 5, 202, the President stated that under the Public Utility Law of the State of Indiana which becomes effective May 1, 1913, a majority of the Board of Directors of the Company and all of the executive and general officers must be residents of the State of Indiana. Proper steps were taken to comply with the above provisions of the law. Mr. Geist resigned as President and Mr. Kirk was elected to the place.

The position of Chairman of the Board of Directors was created at a salary of \$12,000.00 per year and Mr. C. H. Geist was elected to fill the position.

Mr. Kirk was allowed \$6,000.00 per year as President, but his salary of \$6,000.00 as General Manager was eliminated.

The office of Controller was created with a salary of \$2,400.00 per year and Mr. W. A. Clader was elected as such.

[fol. 346] W. A. Allison & Co. were appointed as Consulting Engineer- at an annual salary of \$6,000.00.

Mr. Kirk's salary as President was increased to \$7,200.00 on February 27, 1914, M. R. 5, 221.

The Philadelphia Engineering Company was appointed as Consulting Engineers in place of Allison & Co. at a meeting held February 25, 1915, M. R. 5, 260 at \$6,000.00 per annum.

General Statement

During the early period, it is apparent that no distinct lines were drawn between operating and capital expenditures.

A number of accounts were closed into Profit and Loss that should have been capitalized, for instance such accounts as Lead, Packing, Hydrants and Valve Fittings, etc., were charged with purchases, but credits were not given as materials were taken out of stock and placed in the system, but, at the end of the year, an inventory would be taken and the losses in the accounts were thrown into Profit and Loss. We have properly capitalized these items.

During the period from 1870 to 1915, we have charged all "Interest on Funded Debt" in Income Account, but it is probable that at least a part of this should have been chargeable to Construction under "Interest during Construction."

It was customary, also, during the early period, to take an inventory of horses, wagons, harness, furniture, etc., and charge off the deterioration to Profit and Loss. We have regarded this as actual depreciation, and have carried these items to Income Account as expenses.

It seems apparent that all salaries were charged to operating, but we have analyzed this account and ascertained, as nearly as possible, the capital expenditures for engineering, etc., and so treated them. According to verbal information from long time employees, Mr. Davis, former Vice-President, spent much of his time overseeing and directing construction, so we have capitalized one half of his salary and placed the other half in operation.

The following accounts have been analyzed as between Construction and Operation:

Gallery Station,
Street Services, and
Current Expenses.

On April 1, 1909, a new system of bookkeeping was installed and was used until December 31, 1912 when several changes were made in the method of handling Operating Accounts. We show an analysis of these accounts for this period. Charges of "Interest on Investment" were made against Operation, but we have eliminated these in our report, thus showing the true operating expenses. The Company also discontinued this practice on December 31, 1912.

[fol. 347]

Statistical Information

The Indianapolis Water Company supplies Indianapolis, Woodruff Place, Broad Ripple, Beech Grove, and intervening territory, the population of said territory being approximately 275,000, with about 400 miles of mains.

The meter rates graduate from 18 cents down to 4½ cents according to consumption.

The Company reports the following number of municipal hydrants on December 31, 1914:

Indianapolis	3,190	at	\$45.00	each
Broad Ripple	42	at	45.00	each
Woodruff Place	9	at	45.00	each
Beech Grove	32	at	45.00	each
Drinking Fountains	77	at	45.00	each

The source of supply for the filtration plant and water for hydraulic power used at Washington Station, is conveyed by the Company's Canal, which extends from White River at Broad Ripple to Washington Street and the river, a distance of approximately nine miles.

The river water pumped into the distribution system passes through the filtration and purification plant, directly by gravity to the storage reservoirs and to the suction of the pumps.

Water from Fall Creek intake is pumped by low centrifugals. The purpose of the intake at Riverside is for use only in extreme conflagration.

The capacity of entire pumping plant in gallons per day of 24 hours is 106 million gallons high pressure; 6 million gallons booster and 29 millions gallons low lift.

The purification system is sand filtration, preceded by coagulation and followed by sterilization. Alum is used as a coagulant.

The settling basin covers 15½ acres and is of about 45,000,000 gallons capacity.

There are six covered filter beds of 8/10 of an acre area each of 5 million gallons daily capacity each.

In addition to the river supply, the Company owns 50 driven wells of approximately 350 feet depth with about 20 million gallons daily capacity.

(Here follows continuation of Defendants' Exhibit 44, marked side folio pages 348 and 349.)

[fol. 350] Opening Journal Entry, Apr. 23, 1881.

Assets

Property and Plant:

Capital Charges in Current Expense.....	
Real Estate	150,000.00
Water Pipe System	402,434.00
Valve System	12,000.00
Hydrant System	40,000.00
Machinery	85,000.00
Buildings	40,000.00
Branch Casting System	25,000.00
Boilers	10,084.07
Canal Property	50,000.00
Lead, Construction	
Packing "	
Tools, "	
Taps "	
Stables and Sheds	400.00
Tool House	50.00
Furniture	415.40
Water Meters	146.00
Hydrant Fittings	
Valve Fittings	
New Water Supply—Conduit	
Canal Services	
New Water Supply—Gallery	
Aqueduct	
Fence	
Wing Dam	
Extension to Gallery	
Flume	
Boat	
Levee	
Street Services	
Capital charges in Salary Account	
Scales	125.00
Horses	175.00
Wagons	188.00
Harness	43.75
Pipe Services	
Total of Property and Plant.....	816,061.22

Assets

Property and Plant:

Discount on Bonds during Construction
Construction
Water Pipe
Valves
Tools
Real Estate
Furniture
Taps and Cocks
Hydrants
Branch Castings
Commissions
Interest on Floating Debt
Exchange
Premium on Gold
Freight
Capital Expenditures in Current Exp. Acct.

Total of Property and Plant

W. Henderson, Treas.
W. Henderson, Agent
Holly Mfg. Co.
Deloss Root & Co.
A. Gay
Bills Receivable
Indianapolis Insurance Co., Trustee (Bank of Commerce)
Winslow Lanier & Co.
Harmon Woodruff
J. A. Hambleton & Co.
Joseph Leach
Atlas Works
Deficit

Total Assets

Liabilities

Capital Stock
Bonds—First Mortgage
“ Second “ 1st Series
“ Second “ 3rd Series
“ Third
Bills Payable
Dennis Long & Co.
Deloss Root & Co.
Premium on Gold
W. Henderson, Treasurer
Surplus

Total Liabilities

Indianapolis Water Company

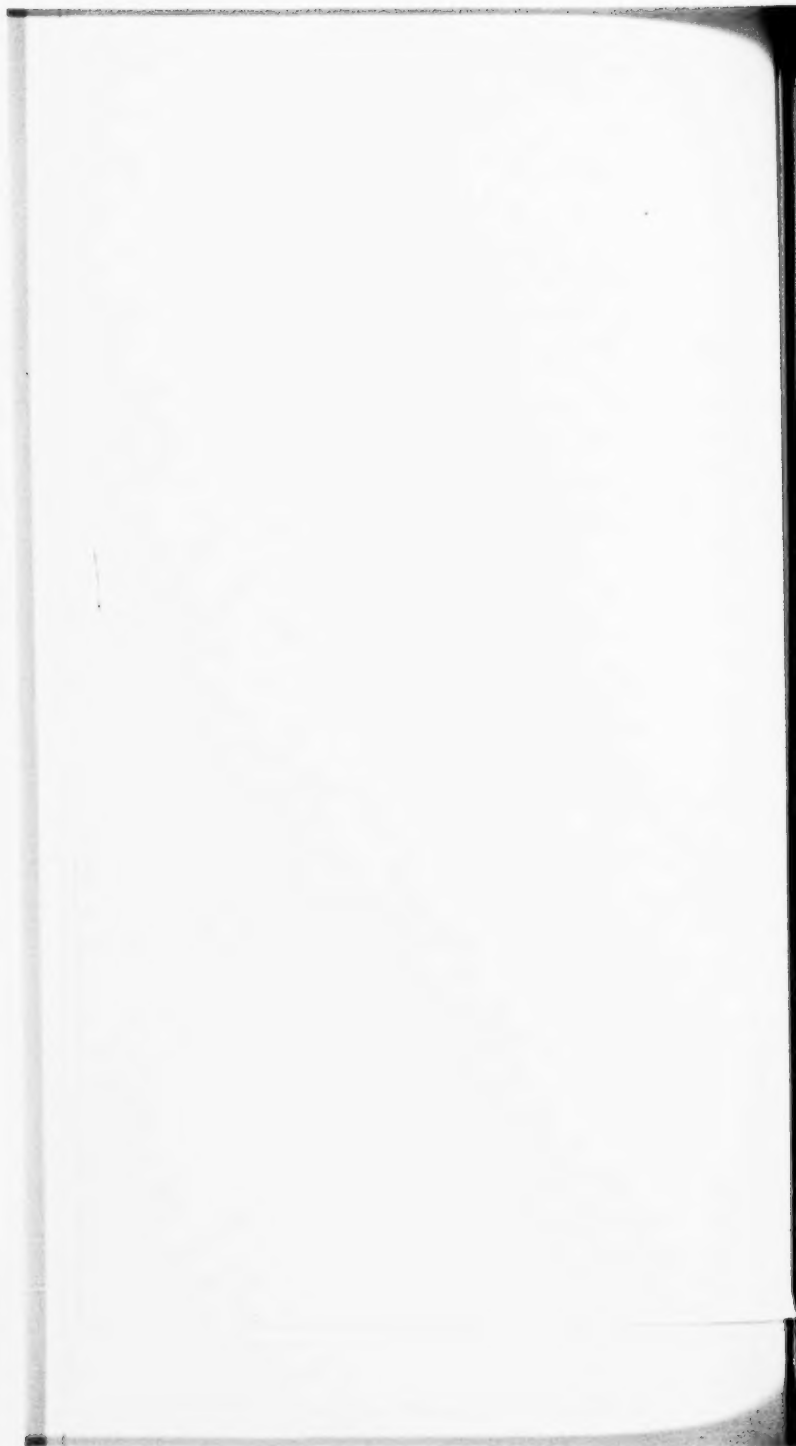
Balance Sheets Water Works Company of Indianapolis

	Dec. 31, 1870	Dec. 31, 1871	Dec. 31, 1872	Dec. 31, 1873	Dec. 31, 1874	Dec. 31, 1875
uction.....	.....	.....	700.00	2,500.00	9,550.00	64,650.00
.....	65,666.35	117,272.18	136,656.59	153,146.27	176,751.48	274,308.18
.....	57,033.21	135,123.41	138,093.65	140,963.24	220,744.29	281,318.64
.....	694.40	2,369.50	2,369.50	2,369.50	2,388.60	6,665.93
.....	569.13	675.66	675.66	675.66	675.66	675.66
.....	522,372.46	522,519.46	532,519.46	474,019.46	476,069.46	476,119.46
.....	88.00	199.15	199.15	199.15	199.15	199.15
.....	209.55	794.42	955.12	968.27	968.27	968.27
.....	4,098.15	8,256.15	9,016.25	9,052.35	9,292.35	14,542.35
.....	2,969.92	8,228.60	8,324.67	8,443.54	12,257.74	21,296.64
.....	16,200.00	44,700.13	44,937.53	45,364.07	52,572.07	69,062.07
.....	95.55	2,043.67	9,845.26	19,692.35	33,181.22	38,416.57
.....	3.19	29.35	44.70	45.95	64.45	95.76
.....	.....	2,202.19	5,473.81	5,485.81	11,594.94	14,306.29
.....	1,180.46	1,444.95	2,106.65	2,499.04	2,690.81	3,995.99
Exp. Acct.....	1,627.43	4,821.29	5,189.54	9,731.68	11,916.56	13,045.95
<u>.....</u>	<u>672,747.80</u>	<u>850,680.11</u>	<u>897,107.54</u>	<u>75,156.34</u>	<u>1,020,927.05</u>	<u>1,279,666.91</u>
.....	4,339.13	.....	364.63	15,113.94	31,905.31	679.41
.....	3,405.00	12,266.25	11,560.00	40,983.33	.....	.....
.....	32,838.84	35,284.62	35,281.72	80,281.72	80,281.72	120,043.57
.....	6,496.48	99.75	99.75	99.75	99.75	.....
.....	.....	325.00	325.00	325.00	.....	.....
.....	.....	.....	.....	.....	25.00	40.50
.....	.....	.....	.....	53,500.00	53,500.00	53,500.00
.....	.....	.....	.....	.....	.....	14,748.14
.....	.....	.....	.....	.....	8,000.00	10,000.00
.....	.....	.....	.....	.....	83,623.40	.....
.....	.....	.....	.....	.....	30.85	30.85
.....	.....	.....	.....	.....	.....	389.31
.....	13,806.52	33,282.60	31,211.36	3,702.59	54,552.27	63,068.85
<u>.....</u>	<u>733,633.77</u>	<u>931,938.33</u>	<u>975,950.00</u>	<u>1,069,162.67</u>	<u>1,332,935.35</u>	<u>1,542,167.54</u>
.....	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00
.....	233,000.00	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00
.....	.....	34,000.00	34,000.00	91,000.00	4,000.00	.....
.....	.....	.....	.....	.....	312,000.00	500,000.00
.....	.....	.....	.....	.....	.....	150,000.00
.....	.....	45,000.00	71,950.00	128,162.67	151,448.48	41,500.00
.....	496.64	.....	.....	.....	15,486.87	666.79
.....	.....	.....	.....	.....	.....	.75
.....	137.13	.....	.....	.....	.....	.....
.....	.....	2,938.33	.....	.....	.....	.....
.....
<u>.....</u>	<u>733,633.77</u>	<u>931,938.33</u>	<u>975,950.00</u>	<u>1,069,162.67</u>	<u>1,332,935.35</u>	<u>1,542,167.54</u>



Dec. 31, 1879	Dec. 31, 1880	Apr. 14, 1881
65,650.00	65,650.00	65,650.00
336,212.46	363,953.82	363,953.82
290,904.90	299,220.73	299,242.01
8,228.78	8,721.46	8,919.51
675.66	1,560.31	1,636.45
530,119.46	530,119.46	530,119.46
119.15	415.40	415.40
968.27	991.65	1,027.65
19,096.20	20,746.20	20,746.20
22,632.47	22,802.43	22,922.39
70,439.43	70,439.43	70,439.43
67,719.33	67,719.33	67,711.19
113.42	113.42	113.42
27,606.73	27,606.73	27,606.73
4,631.34	4,689.50	4,716.76
24,133.57	27,145.24	27,221.50
.....	9,084.07	9,084.07
50,000.00	50,000.00	50,000.00
.....	.....	789.09
.....	67.13	1,397.21
.....	125.00	125.00
.....	50.00	.....

FOLD OUT IS TOO LARGE TO BE FILMED



Inventories	2,632.86
Worthen Pump	
Accounts Receivable	
Bills Receivable	11,500.00
F. A. W. Davis, Treas.	169,805.92
Deficit	

Total Assets	<u>1,000,000.00</u>
--------------------	---------------------

Liabilities

Capital Stock	500,000.00
Bonds—First Mortgage	500,000.00
“ —Second Mortgage	
Bills Payable	
Accounts Payable	
Surplus	

Total Liabilities	<u>1,000,000.00</u>
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[fol. 351]

Journal Entries

Entries to Open Books of Account of the Indianapolis Water Co. at
Mar. 31, 1909, in Accordance with Balance Sheet Prepared and
Submitted by Watson, Rice & Haddath, of Cincinnati, O., Dated
Sept. 1, 1909

	Dr.	Cr.
Mar. 31. Real Estate	\$321,408.64	
Buildings	277,129.21	
Stables and Sheds	1,000.00	
Riverside Pumping Station	32,101.59	
Lower “ “	11,279.20	
Bradley St. “ “	4,002.97	
Chemical House	17,814.82	
Filter (Main)	716,447.36	
Auxiliary Filter	73,895.51	
Schofield Mill	16,863.99	
Canal	50,000.00	
Aqueduct	79,465.65	
Conduit	85,119.56	
Gallery	268,365.02	
Reservoir	64,396.81	
Flume	25,701.27	

Distribution System:		Dr.	Cr.
Pipe	"	1,683,456.29	
Hydrant	"	110,004.50	
Branch castgs. System		93,861.69	
Valve	"	69,590.38	
Meters	"	54,710.34	
Machinery		547,472.75	
Boilers		77,345.00	
Tools		11,524.01	
Canal Boat		1,205.00	
Scales		160.00	
Chemical House Equipment		401.78	
Laboratory	"	462.04	
Filter	"	153.09	
Auxiliary Filter	"	32.37	
Inventories	"	43,335.67	
Horses		1,530.00	
Wagons, Automobiles, etc.		3,529.20	
Harness		239.50	
Furniture and Fixtures		6,629.97	
Indianapolis Water Co.,			
Special Account		7,227.27	
A. Jordan & Company		398.78	
Consumers' Accounts, Meter			
Rates		419.54	
Consumers' Accounts, Flat			
Rates		3,199.37	
Consumers' Accounts, Mdse.			
Sales & Street Svce.		4,318.93	
Accounts Receivable, Misc.		1,005.22	
Notes Receivable		9,741.08	
Cash		17,151.07	
Accrued Interest		1,025.07	\$38,087.91
Forward		\$4,795,121.51	\$38,087.91
[fol. 352] Forward		\$4,795,121.51	\$38,087.91
Capital Stock			500,000.00
First Mortgage 6% Bonds,			
Less 44 Bonds Redeemed			458,000.00
General 5% Mortgage			
Bonds, Add 42 Bonds			
Issued to redeem above			2,392,000.00
Gold 4½% Mortgage Bonds			1,000,000.00
Bills Payable			3,640.00
Vouchers Payable			62,257.72
Cash Meter Deposits			6,105.52
Accrued Taxes			11,469.13
Surplus			323,531.23
		\$4,795,121.51	\$4,795,121.51

Property and Plant:

March 31

Capital Charges in Current Expenses

74,50

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Vou
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Rese
Rese
Acce
J. F.
E. C
Divic
Uncl
Acce
Surp

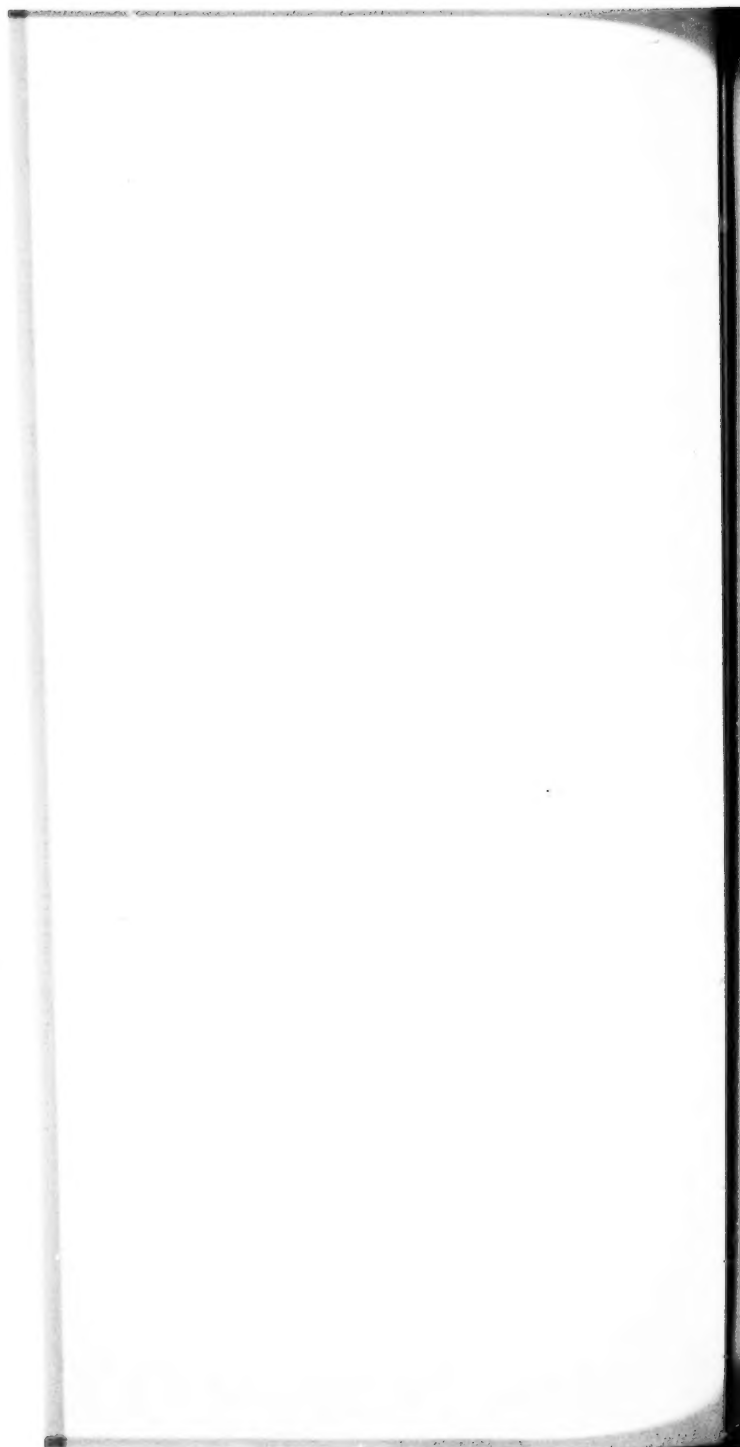
Indianapolis Water Company
Balance Sheets, Indianapolis Water Company

Assets

Property and Plant:	March 31st, 1910	March 31st, 1911	December 31st, 1911	December 31st, 1912
Organization				19,643.95
Real Estate	876,029.02	876,029.02	893,296.37	897,295.77
Canal Property	1,796,192.89	1,797,106.18	1,797,112.33	1,797,112.33
Filter Property	1,042,975.75	1,051,358.48	1,053,749.52	1,057,515.26
Riverside Station Property	1,347,519.91	1,405,248.05	1,430,984.97	1,460,729.12
Washington Station Property	292,140.93	297,840.00	298,086.46	298,250.35
Bradley Station Property (Michigan Sts.)	6,400.15	6,400.15	6,400.15	5,045.55
Distribution System	3,700,193.41	3,781,003.68	3,850,569.71	3,975,784.33
Going Value	1,004,000.00	1,004,000.00	1,004,000.00	1,004,000.00
Office, Miscel. Bldg. and Tenement	33,046.34	35,461.15	35,461.15	35,461.15
General Construction Machinery	24,010.90	21,303.40	21,303.40	23,970.07
Furniture and Fixtures	7,861.00	7,366.95	7,366.95	7,366.95
Plant Equipment				122,579.73
Broad Ripple Supply				6,244.93
Appraisal & Bond Refunding Expenses	10,214.07	26,816.84	31,686.18	
Bond Exchange Expense Account		61,216.00	103,085.82	
Motor Equipment				2,872.84
Total of Property and Plant	10,951,194.37	10,281,749.90	10,443,133.01	10,623,902.33
Stores	66,915.49	47,134.03	33,875.60	44,918.42
Cash	47,426.28	127,633.19	122,326.57	95,884.63
Notes & Bills Receivable	16,832.30	33,549.91	51,016.26	40,797.16
Indpls. Water Company, Special Account	7,227.27			
A. Jordan Company	398.78	781.36	900.30	1,155.50
H. McK. Landon	1,709.28	1,690.69	1,894.78	99.65
Indiana National Bank	10,000.00			
Treasury Bonds				
Accounts Receivable	44,886.21	41,017.82	36,000.00	36,000.00
Prepaid Insurance			42,009.19	65,812.11
Edgehill Corporation		200.00		660.38
Union Trust Co., Depreciation Fund				27,529.44
Indiana Trust Company, Depreciation Fund		6,156.77	38,764.80	4,824.88
Bankers Trust Co., N. Y.		6,495.68	7,055.58	7,056.11
Depreciation fund Investment		31,785.95	34,000.00	62,582.50
Total Assets	10,246,589.98	10,578,195.30	10,810,976.07	11,009,253.11

Liabilities

Capital Stock—Common	500,000.00	5,000,000.00	5,000,000.00	5,000,000.00
Bonds—First Mortgage 6%	458,000.00	412,500.00		
—General Mortgage 5%	2,442,000.00	2,431,000.00	2,431,000.00	2,431,000.00
—Gold Mortgage 4½%	1,000,000.00	17,000.00		
—First & Refunding 4½%		1,915,000.00	2,419,000.00	2,419,000.00
Notes and Bills Payable	1,500.00			
Meter Deposits	7,877.59	9,752.71	11,364.05	13,026.24
Vouchers Payable	15,225.40	12,987.83	9,829.55	11,593.82
Accrued Interest	39,485.00	62,615.00		
Accrued Taxes	35,565.61	36,486.68	49,005.92	54,624.85
Reserve for Depreciation	54,719.51	110,100.38	134,014.65	186,021.98
Reserve for Contingent Depreciation (Other Reserves) ..		20,000.00	20,000.00	20,000.00
Reserve for Unearned Income			64,203.64	69,214.64
Accretions—Depreciation Fund		442.72	2,584.67	6,128.15
J. F. O'Donnell	59.93			
E. C. Leible	119.86			
Dividend Account	18.00			
Unclaimed Wages				
Accounts Payable				
Surplus	5,692,019.08	550,309.98	669,973.59	798,643.43
Total Liabilities	10,246,589.98	10,578,195.30	10,810,976.07	11,009,253.11



[fol. 353]

Explanatory Balance Sheets

On the following page is shown several Balance Sheets for comparative purposes.

Column A shows our Balance Sheet on March 31, 1909, containing the Asset items which we carried after analyzing various accounts in previous years and separating, as far as possible, the capital expenditures from operating and placing these charges where they belong. (See analysis sheets for proof.)

Column B shows the adjustments made by the Company's Auditor on March 31, 1909, when a new set of books were installed and opening entries made. These adjustments were necessary because, previous to this date (March 31, 1909) the accounts were not vouchered until paid. Consumers' Accounts Receivable were placed on the books as were Vouchers Payable and Accrued Taxes and Interest. A corrected statement of Bills Receivable and Meter Deposits were also shown.

Column C shows the opening entry on March 31, 1909 after the aforesaid adjustments were made.

Column D shows those Asset items of property and plant account which we segregated from operating expenses in previous years as per analysis sheets shown in this report.

Column E shows a balance sheet after combining the opening entry as shown on the Company's books (Column C) with those property and plant items as shown by us in Column D.

Column F shows the balance sheet after the Journal entries were made in accordance with Metcalf & Alvord's appraisal as of April 1, 1909.

(Here follows continuation of Defendants' Exhibit 44, marked side folio pages 354, 355, and 356.)

[fol. 357]

Indianapolis Water Company

Income Accounts, Water Works Company of Indianapolis

Revenues:	From March 1, 1870, to Dec. 31, 1870	From Jan. 1, 1871, to Dec. 31, 1871	From Jan. 1, 1872, to Dec. 31, 1872	From Jan. 1, 1873, to Dec. 31, 1873	From Jan. 1, 1874, to Dec. 31, 1874	From Jan. 1, 1875, to Dec. 31, 1875
Water Rents.....	.....	8,296.67	10,063.83	8,641.91	8,599.36	7,979.68
Water Rates.....	.....	5,293.52	20,002.10	25,295.77	27,200.45	34,874.88
City of Indianapolis.....	.....	.....	12,179.68	9,677.76	10,637.58	14,371.14
Total Operating Revenues.....	.....	13,590.19	42,248.61	43,615.44	45,837.39	56,325.70
Operating Expenses:						
Current Expenses.....	4,462.41	12,145.95	12,089.53	16,056.67	12,721.92	14,158.84
Net Operating Revenue or Deficit..	4,462.41*	1,354.24	30,159.08	27,558.77	33,115.47	42,166.86
Non-operating Revenues:						
Interest on Bills Receivable.....	22.56	.....	1.75	.....	7.54	210.90
Fines .....	.....	.....	.....	.....	.....	6.50
Ice .....	.....	.....	.....	.....	.....	2,375.00
Gross Income or Deficit.....	4,439.85*	1,354.24	30,160.83	27,558.77	33,123.01	44,759.26
Deductions from Gross Income—Interest on Funded Debt.....	9,306.67	20,830.32	28,089.59	50.00	83,972.69	53,275.84
Net Income or Deficit.....	13,806.52*	19,476.08*	2,071.24	27,508.77	50,849.68*	8,516.58*
Surplus or Deficit for Year.....	13,806.52*	19,476.08*	2,071.24	27,508.77	50,849.68*	8,516.58*
Deficit at beginning of Year.....	.....	13,806.52*	33,282.60*	31,211.36*	3,702.59*	54,552.27*
Deficit at Close of Year, as per Bal- ance Sheet.....	13,806.52*	33,282.60*	31,211.36*	3,702.59*	54,552.27*	43,068.82*

Revenues:	From Jan. 1, 1876, to Dec. 31, 1876	From Jan. 1, 1877, to Dec. 31, 1877	From Jan. 1, 1878, to Dec. 31, 1878	From Jan. 1, 1879, to Dec. 31, 1879	From Jan. 1, 1880, to Dec. 31, 1880	From Jan. 1, 1881, to Apr. 16, 1881
	Dec. 31, 1876	Dec. 31, 1877	Dec. 31, 1878	Dec. 31, 1879	Dec. 31, 1880	Apr. 16, 1881
Water Rents.....	6,800.38	8,775.85	6,458.04	6,423.00	6,313.80	1,853.00
Water Rates.....	89,936.68	36,586.08	34,686.07	34,921.90	35,867.57	9,817.25
City of Indianapolis.....	28,432.96	27,839.34	25,006.00	25,028.22	29,362.80	7,363.96
Total Operating Revenues.....	75,170.02	73,210.27	63,160.11	66,373.21	71,544.17	19,033.61
Operating Expenses:						
Current Expenses.....	13,264.02	14,696.13	10,577.73	11,164.88	10,694.62	20,355.84
Net Operating Revenue.....	61,906.00	59,114.14	52,582.38	55,208.33	61,449.55	1,322.23*
Non-operating Revenue:						
Interest on Bills Receivable.....	37.00	296.55	6.58	2.50	4.42	.....
Fines.....	1.00	15.00	6.00	15.00	.....	.....
Ice.....	1,788.02	4,117.22	1,339.25	3,203.90	2,114.00	761.00
Gross Income.....	63,632.02	63,452.91	53,954.21	58,429.73	63,567.97	561.23*
Deductions from Gross Income—Interest on Funded Debt.....	84,320.00	54,720.00	104,639.29	70,882.17	15,573.20	.....
Net Income or Deficit.....	20,687.98*	8,732.91	50,684.93*	12,452.44*	47,994.77	561.23*
Surplus or Deficit for Year.....	20,687.98*	8,732.91	50,684.93*	12,452.44*	47,994.77	561.23*
Deficit at beginning of Year.....	63,608.85*	87,910.56*	29,177.65*	80,119.59*	92,282.63*	31,748.04*
Total.....	83,756.83*	79,177.65*	79,892.64*	92,572.03*	44,287.36*	32,309.27*
P. & L. Adjustments Credits, See Page —	.....	50,000.00	.....	290.00	12,539.22	.....
P. & L. Adjustments Debits, See Page —	.....	.....	256.45	.....	.....	.....
Deficit at Close of Year, as per Bal- ance Sheet.....	87,910.56*	29,177.65*	80,119.59*	92,282.63*	31,748.04*	32,309.27*

*Red.

[fol. 359]

Indianapolis Water Company
Water Works Company of Indianapolis
Stock and Bond Statement
Stock

The first entry in the Ledger was made May 1, 1870, when the Capital Stock Account was credited with \$500,000.00 and Cash was charged with same amount. Another entry was immediately made crediting Cash with \$500,000.00 and Real Estate was charged with same amount. The above transaction can be interpreted in two ways; first, that the Stock was sold for Cash and Cash paid for Real Estate; second, that the Stock was given for Real Estate but placed on books as a Cash transaction.

First Mortgage Bonds—Cash	\$179,750.00
Books as a Cash transaction.	\$500,000.00

Bonds

"	—Com. Indianapolis Insurance Company	2,500.00
"	— " Directors	10,000.00
"	— Mortgage on Canal	20,000.00
"	— Dennis Long & Company on Account	109,000.00
"	— Commissions (Disc.)	12,450.00
"	— Holly Mfg. Co. Account	10,000.00
"	— Deloss Root and Co. Account	6,300.00

Total

350,000.00

[illegible]

Redeemed from Oct. 10, 1874 to Dec. 22, 1875.

Second Mortgage, Second Series Exchanged.		
Cash	119,000.00	Dr. items to above {
Interest and Discounts	3,800.00	
	200.00	
	<hr/>	
	123,000.00	
	<hr/>	

Second Series Second Mortgage Bonds—Cash.	351,675.00
“ “ “ “ —Com.	5,475.00
“ “ “ “ —Dennis Long & Co.	19,050.00
“ “ “ “ —Interest and Discount.	4,800.00
“ “ “ “ —1st Series exchanged.	119,000.00
	<hr/>

Total 500,000.00

Third Mortgage Bonds:

Cash	130,500.00
Interest and Discount	19,500.00
	<hr/>
	150,000.00
	<hr/>
	1,500,000.00

"	"	1889	"	"	"	"	5,000.00
"	"	1890	"	"	"	"	5,000.00
Unissued							50,000.00
							50,000.00
							100,000.00

Bonds, Funding Mortgage 5%

Authorized Dec, 28, 1889, 500 Bonds of \$1,000.00 each, dated Jan. 1, 1890, bearing 5% interest, to run twenty years, but redeemable after Jan. 1, 1895, \$50,000.00 to be used in redeeming Second

Mortgage Bonds, etc.

Charge Sinking Fund, April, 1890, Second Mortgage Bonds—Re-
deemed

Bond Dividend April 1890	50,000.00
" " July 1892	200,000.00
" " Sept. 1894	100,000.00
" " Sept. 1895	100,000.00
	50,000.00

Total

Redeemed by Gen'l Mtg. Bonds of July 1, 1896

500,000.00

[fol. 361]

General Mortgage Bonds

Refunding 5% Bonds

Authorized July 18, 1896, to be dated July 1, 1896, bearing 5% payable 30 Years after date, but redeemable after July 1, 1911.
To be used in refunding previous issues, to pay dividends, and for other purposes.....

..... 3,000,000.00

Redeemed Funding Mortgage Bonds of 1890

Cash
Dividends
Exchanged for First Mortgage Bonds of 1881.....

..... 500,000.00

..... 1,150,000.00

..... 750,000.00

..... 42,000.00

Total

..... 2,442,000.00

Less Amt. exchanged for 1st & Refunding Gold of 1910.....

..... 11,000.00

Redeemed by Sinking Fund.....

..... 10,000.00

Outstanding Dec. 31, 1914.....

..... 2,421,000.00

Gold Mortgage 4½% Bonds

Authorized July 26, 1900, dated June 30, 1900, due July 1, 1930, and issued as per Directors Resolution of June 23, 1900, declaring a dividend.....

..... 500,000.00

Authorized March 29, 1906, issued as a dividend.....

..... 300,000.00

Authorized April 2, 1906, issued as a dividend.....

..... 200,000.00

Total

..... 1,000,000.00

Redeemed by 4½% 30 Year Gold Bonds of Jan. 1, 1910.....

..... 1,000,000.00

Authorized February 4, 1910, dated Jan. 1, 1910, bearing $4\frac{1}{2}\%$ due in 30 Years..... 10,000,000.00

Issued as follows:

Dividends	800,000.00
Used to Redeem Gold Mortgage $4\frac{1}{2}\%$ of 6/30/1900	1,000,000.00
Used to Redeem Gen'l Mtg. Bonds of 7/1/96	11,000.00
Charged to Bond Exchange Acct. Com. & Disc't.	82,000.00
Depreciation Fund—Investment Fund	16,000.00
Redeemed 1st Mtg. Bonds of 1881	458,000.00
Cash (various discounts)	831,000.00
	<hr/>

Outstanding Dec. 31, 1914..... 3,198,000.00

Recapitulation

Capital Stock Dec. 31, 1914	5,000,000.00
General Mtg. 5% Bonds, 12/31/14	2,421,000.00
First & Refunding $4\frac{1}{2}\%$ Bonds 12/31/14	3,198,000.00
	<hr/>
Total capital obligations Dec. 31, 1914	10,619,000.00

DEPENDANT CITY'S EXHIBIT No. 45 (Boggs)

308

Income Account

Operating Revenues:

	1922	1923	Jan. 1-Mar. 31, 1924
Commercial sales—metered	\$608,045.88	\$697,263.43	\$214,259.36
Commercial sales—flat rate	788,916.35	831,915.12	212,707.39
Industrial sales—canal water	25,825.39	27,150.02	6,887.50
Municipal hydrant rentals	240,055.78	251,550.91	80,125.69
Sales to municipal departments	5,999.69	6,194.52	6,051.89
Sales for building purposes	26,597.08	25,601.35	2,502.62
Fee for turning water off and on	522.00	430.50	85.50
Miscellaneous earnings	601.80	835.35	109.50
Used by company, etc.	1,153.81	1,276.90	342.17
Total operating revenues	\$1,697,717.78	\$1,342,248.10	\$523,072.22

Operating Expenses:

Pumping	\$276,492.65	\$287,905.48	\$81,259.78
Distribution	53,170.00	53,397.31	14,536.08
Commercial	9,916.93	11,117.97	2,709.46
General	142,331.34	165,175.63	42,461.98

Total of above items

\$481,910.92

*Taxes—amortization of increased tax payment, 1920

\$520,595.39

Taxes, state, county and local

17,800.00

Taxes Federal income and capital stock

4,419.69

Depreciation

276,254.94

Total operating expenses

75,000.00

Net operating revenues

19,883.20

33,783.05

\$277,083.54

\$275,080.08

	1928, 1929, 1930	1931, 1932, 1933	1934, 1935, 1936
Gross income	\$845,495.03	\$802,345.91	\$8252,536.85
Deductions from Gross Income:			
Interest on funded debt	\$285,141.25	\$383,135.18	\$403,848.75
Interest on floating debt	601.98	1,483.50	1,563.35
Penna. State tax refunds	1,326.32	1,702.44	500.00
Amortization of bond discount	6,300.00	18,401.30	4,912.01
Amortization of preferred stock discount	6,000.00	3,000.00	.....
Donations	1,795.00	3,773.92	712.68
Misc. net income deductions	12.45	.....	.....
Total deductions	\$801,177.00	\$411,496.34	\$411,536.79
Net income	\$44,318.03	\$490,871.57	\$414,000.06
Disposition of Net Income:			
Preferred stock dividends	\$30,709.84	\$35,595.00	.....
Common stock dividends	400,000.00	400,000.00	.....
Total	\$430,709.84	\$435,595.00	.....
Surplus for period	\$13,608.19	\$55,276.57	\$414,000.06
Surplus at close of previous period	\$14,571.55	\$14,909.50	\$31,303.35
Total	\$319,670.34	\$370,237.07	\$472,303.41
Profit and loss adjustments	4,709.84†	\$8,933.72‡	5,163.57
Surplus at close as per balance sheet	\$314,960.50	\$331,303.35	\$477,466.98

• P. & C. I. order No. 5780. † Ret. in copy.1

[fol. 363] DEFENDANT CITY'S EXHIBIT No. 46.

Tax Return of Indianapolis Water Company for Year 1923 to
State Board of Tax Commission of Indiana

	Amount of capital stock	Authorized	Outstanding
A. Common Stock		\$5,000,000	\$5,000,000
Preferred Stock		2,000,000	1,017,000
B. Number of shares—Common...		100,000	
“ “ “ —Preferred ..		20,000	

The real estate and improvements owned by said public utility subject to local taxation within the State and location and assessed value thereof in each county, township, town or city where the same is assessed.

Assessed valuation by local assessors on real estate and improvements in year 1922, viz:

County	Township, town or city	Description of real estate	Assessed value, year 1922
Marion.....	Indianapolis.....	In Center Twp.....	1,127,150
		Broadripple	29,300
		Washington Twp.	191,450
		Center Twp.	150
Hamilton....	Noblesville Twp.		4,600

No value given franchises in books.

A schedule of all other property not included in the foregoing, both tangible and intangible within the State of Indiana, and where situate, together with a statement of the true cash value of the same.

Description	Location	True cash value
Plants—equipment and distribution system and all other personal property, net amount		\$9,500,650
Amount of true cash value of all tangible property		\$10,853,300
Amount of dividends paid during last year preceding		400,000
Amount of the Surplus March 1st.....		195,850
[fol. 364] A. Amount of gross Revenue or receipts from the business during year last preceding March 1st.		1,752,026.00
B. Amount of net income from the business during year last preceding March 1st		487,053.00
C. Amount of Indiana (not including Federal) taxes due and payable on last assessment		242,448.00

D. Copy of balance sheet or statement as of March
1st of the current year:

Assets

Property and Plant:

Cost beginning of year	\$12,094,317.13
Construction and equipment during current the fiscal year	294,132.27
Cost close of year	

Treasury Securities:

Treasury stock	
Treasury bonds	

Investments:

Stocks and bonds of other companies	
Other investments	29,450,000.00

Reserve, Sinking and Special Fund Assets:

Depreciation reserve fund	259,808.78
Sinking fund	
Amortization reserve fund	
Special funds	1,690.65

Current Assets:

Cash	188,768.37
Notes and bills receivable	22,668.66
Accounts receivable	113,295.21
Interest and dividends receivable	7,837.25
Material and supplies	79,936.43
Miscellaneous current assets	

Prepaid Accounts:

Prepaid insurance	3,699.09
Prepaid taxes	1,431.32
Prepaid interest	
Miscellaneous prepaid accounts	1,834.63

Open Accounts (Suspense):	189,673.97
---------------------------------	------------

Deficit	
---------------	--

Total Assets	\$13,288,543.76
--------------------	-----------------

Liabilities

[fol. 365] Capital Liabilities:

Capital stock, preferred	\$1,017,000.00
Capital stock, common	5,000,000.00
Funded debt	6,070,000.00

Mortgage Liabilities:

Real estate mortgages	
Other mortgages	

Reserve, Sinking and Special Fund Liabil:

Depreciation reserve	\$468,511.87
Sinking fund	
Amortization reserve	
Special funds	271.65

Current Liabilities:

Notes and bills payable	
Accounts payable	\$21,831.55
Matured interest on funded debt	
Matured interest on notes and bills payable un- paid	
Dividends unpaid	
Deposits	\$20,372.79
Miscellaneous current liabilities	61,003.10

Accrued Liabilities:

Accrued insurance	
Taxes accrued	334,344.92
Unmatured interest on funded debt accrued ..	47,669.16
Unmatured interest on notes and bills pay- able accrued	
Dividends accrued	11,835.00
Miscellaneous liabilities accrued	

Open Accounts

Surplus 195,858.97

Total Liabilities \$13,288,543.76

[fol. 366] STATE OF INDIANA,
Marion, County, ss:

C. L. Kirk, Vice Pres. *Secretary, being duly sworn, on oath says that the foregoing statement, consisting of items and schedules numbered First to Fourteenth, both inclusive, contains and is a full, true and correct statement and schedule of the property of said Public Utility as required to be returned to the State Board of Tax Commissioners of the State of Indiana under the provisions of Section 88 of the Act Concerning Taxation, approved March 11, 1919.

(Signed) C. L. Kirk, Vice Pres.

Subscribed and sworn to before me, this 9th day of April, 1923. (Signed) Blanche M. Tullis, Notary Public.

[fol. 367]

DEFENDANT'S CITY EXHIBIT No. 47

Tax Return of Indianapolis Water Company for Year 1924 to State
Board of Tax Commission of Indiana

	Amount of capital stock	
	Authorized	Outstanding
A. Common Stock	\$5,000,000	\$5,000,000
Preferred Stock	None.	None.
B. Number of shares	100,000	100,000

The real estate and improvements owned by said public utility subject to local taxation within the State and location and assessed value thereof in each county, township, town or city where the same is assessed.

Assessed valuation by local assessors on real estate and improvements in year 1923, viz:

County	Township, town or city	Description of real estate	Assessed value, year 1924
Marion....	Indianapolis	In Center Twp...	\$1,127,150.00
"	Broad Ripple	New Indianapolis work	29,300.00
"	Washington Twp.		191,450.00
"	Center Twp.		150.00
Hamilton..	Noblesville Twp.		4,600.00
Total			\$1,352,650.00

No value given franchises in books.

A schedule of all other property not included in the foregoing, both tangible and intangible within the State of Indiana, and where situate, together with a statement of the true cash value of the same.

Description	Location	True cash value
Plants, equipment and distribution system and all other personal property value assessed by your board in 1923 excluding real estate additions & betterments, made during the year 1923....		\$10,733,050.00 851,400.00
Total.....		\$11,584,450.00

NOTE.—The total valuation figures for taxation purposes used herein, are not based upon our inventory and appraisalment of the physical property, but are arrived at by accepting the tax valuation

figures found by the State Tax Board, for 1923, plus additions and betterments made during the year 1923.

[fol. 368]

Amount of true cash value of all tangible property	\$12,937,100.00
On Common Stock	\$400,000.00
On Preferred Stock	35,000.00
Amount of dividends paid during last year preceding	
Amount of the Surplus March 1st. . .	\$430,995.00
A. Amount of gross Revenue of receipts from the business during last preceding March.	\$1,922,061.58
B. Amount of net income from the business during year last preceding March 1st.	496,203.12
C. Amount of Indiana (not including Federal) taxes due and payable on last assessment.	276,255.00
D. Copy of balance sheet or statement as of March 1st of the current year:	

[fol. 369]

Assets

Property and Plant:

Cost beginning of year	
Construction and equipment during	
Current fiscal year	
Cost close of year	\$13,284,817.25

Treasury Securities:

Treasury stock	
Treasury bonds	

Investment:

Stocks and bonds of other companies	
Other investments	34,450.00

Reserve, Sinking and Special Fund Assets:

Depreciation reserve fund	536,636.78
Sinking fund	
Amortization reserve fund	
Special funds	

Current Assets:

Cash	146,725.15
Notes and bills receivable	17,036.26
Accounts receivable	182,502.90
Interest and dividends receivable	14,078.45
Material and supplies	102,150.62
Miscellaneous current assets	93,678.95

Prepaid Accounts:

Prepaid insurance	
Prepaid taxes	
Prepaid interest	
Miscellaneous prepaid accounts	

Open accounts

Deficit

Total assets \$15,106,229.50

[fol. 370]

Liabilities

Capital Liabilities:

Capital stock, preferred	
Capital stock, common	\$5,000,000.00
Funded debt	8,231,000.00

Mortgage Liabilities:

Real estate mortgages	
Other mortgages	

Reserve, Sinking and Special Fund Liabil.:

Depreciation reserve	
Sinking fund	
Other reserves	14,789.27
Amortization reserve	
Special funds	

Current Liabilities:

Notes and bills payable	185,016.13
Accounts payable	49,956.90
Matured interest on funded debt	
Matured interest on notes and bills payable un- paid	
Dividends unpaid	
Deposits	24,692.20
Miscellaneous current liabilities	76,868.11

Accrued Liabilities:

Accrued insurance	
Taxes accrued	440,008.25
Unmatured interest on funded debt accrued ..	84,145.15
Unmatured interest on notes and bills payable accrued	927.15
Dividends accrued	
Miscellaneous liabilities accrued	3,981.25
Open Accounts	3,309.50
Surplus	430,965.25
Total Liabilities	\$15,106,229.50

[fol. 371] STATE OF INDIANA,
Marion County, ss:

F. C. Jordan, *Secretary, being duly sworn, on oath says that the foregoing statement, consisting of items and schedules numbered First to Fourteenth, both inclusive, contains and is a full, true and correct statement and schedule of the property of said Public Utilities as required to be returned to the State Board of Tax Commissioners of the State of Indiana under the provisions of Section 88 of the Act Concerning Taxation, approved March 11, 1919.

(Signed) F. C. Jordan, Secretary

Subscribed and sworn to before me, this 29 day of March 1924. (Signed) Blanche M. Tullis, Notary Public, My Com. Expires Apr. 11, 1926.

[fol. 372] DEFENDANT'S CITY EXHIBIT NO. 48 (PERK)

Summary Actual Investment in Property and Plant

Total to December 31, 1912	\$5,876,184.82
" from Jan. 1, 1913, to Dec. 31, 1922	2,452,603.82
" year 1923	786,523.71
	<hr/>
	\$9,115,312.35
Current construction work in progress as of December 31, 1923	73,998.50
Contract payments as of December 31, 1923	6,597.48
	<hr/>
Total Gross Investment in Property and Plant as of December 31, 1923, based upon company's books and Commission's audit.	\$9,195,908.33

Actual Investment in Property and Plant as

	Total Apr. 23, 1881, to Dec. 31, 1912
Organization	\$19,643.95
Real estate	379,430.40
Canal property	180,088.25
Broad Ripple supply	6,244.93
Riverside Station	1,151,372.39
Washington St. Station	317,325.47
Filter plant	829,634.23
Booster Station—Bradley St.	2,851.52
General office & misc. bldg.	20,193.15
Distribution system	2,354,554.24
General construction machinery ..	23,970.07
Furniture and fixtures	7,366.95
Total	<u>\$5,292,675.55</u>

NOTE.—The audit (No. 52 made by the accountants of the Public Service Commission show the following items which they consider proper charges to property and plant accounts. These items all appear in the books of the company as charge- to operating expenses.

Capital charges in current expense	\$74,508.15
Lead construction	5,767.04
Packing construction	22,069.71
Tools construction	5,962.82
Taps construction	18,884.68
Hydrant fittings construction	7,423.23
Valve fittings construction	7,394.47
Canal services	122,993.12
Gallery station construction	33,284.20
Capital charges in salary account	185,994.33
Street services	99,227.52
Total	<u>\$583,509.27</u>
Grand Total	<u>\$5,876,184.82</u>

DEFENDANT CITY'S EXHIBIT No. 48 (PERK)—Continued

Actual Investment in Property and Plant as reflected by Capital Accounts on the Books of the Company

	Total Apr. 23, 1881, to Dec. 31, 1912		Jan. 1, 1913, to Dec. 31, 1922	Year, 1923
.....	\$19,643.95	Organization	\$10,537.00	.....
.....	379,430.40	Pumping station land	36,675.36	\$9,464.50
.....	180,088.25	Source of water supply land	49,796.50	9,319.60
.....	6,244.93	General office land	154.03	.....
Supply	1,151,372.39	Stores department land	714.17	.....
Station	317,325.47	Other land .....	.....	609.74
.....	829,634.23	Steam power pump sta. B. F. & G.	54,533.37	553.52*
Bradley St.	2,851.52	Hydraulic pump sta. B. F. & G.	3,782.83	1,843.63
misc. bldg.	20,193.15	Electric power pump, " "	39,017.13	4,982.07
stem	2,354,554.24	Boiler plant B. F. & G.	521.72	.....
ation machinery	23,970.07	Source of water supply, B. F. & G.	113,557.71	33,308.97
fixtures	7,366.95	Reservoir tank & standpipe, B. F. & G.	246,601.71	1,273.13*
.....	<u>\$5,292,675.55</u>	General office, B. F. & G.	1,342.04	.....
.....		Stores department, B. F. & G.	6,881.76	.....
.....		Utility equipment, B. F. & G.	226.15	.....
.....		Steam power pump sta. equipment	141,562.57	20.00*
.....		Hydraulic power pump sta. equipment	33,007.13	80.04
.....		Electric " " "	53,197.84	1,038.00
.....		Boiler plant equipment	20,756.63	57.03
.....		Erecting aqueducts, intakes & supply mains....	54,308.71	.....
.....		Purification system	37,642.31	554.70
.....		Transmission mains	127,413.32	.....
.....		Distribution mains	1,001,429.99	624,148.34
.....		Services	50,761.41	9,131.62
.....		Hydrants	73,796.47	21,318.50
.....		Meters	80,684.79	25,133.25
.....		Fire cisterns, basins, fountains & troughs....	216.81	.....
.....		Rental properties—land	669.93	.....
.....		" " —building	3,345.80	1,662.50*
.....		General office equipment	7,466.45	369.89
.....		Stores department equipment .....	.....	322.80
.....		Utility equipment	14,309.87	3,825.89*
.....		Miscellaneous equipment	4,697.83	15,178.57
.....		Distribution Dept. constr. tools	43,943.97	7,910.43
.....		General construction mach. maint.	8,636.61	2,464.51
.....		Engineering & superintendence	153,056.03	13,919.32
.....		Salaries during construction	6,796.28	.....
.....		Office sup. & exp. during construction	1,093.59	584.72
.....		Law expenses during construction	226.22	40.00
.....		Injuries & damages during construction	6,333.00	.....
.....		Insurance during construction	16,705.50	3,652.49
.....		Misc. exp. during construction	7,532.90	5,214.03
.....		Total	<u>\$2,513,936.47</u>	<u>\$786,311.71</u>
.....		Deductions fixed capital account	61,332.66*	212.00
.....		Net total	<u>\$2,452,603.81</u>	<u>\$786,523.71</u>
.....	\$74,508.15			
in current expense	5,767.04			
ion	22,069.71			
ion	5,962.82			
ion	18,884.68			
s construction	7,423.23			
construction	7,394.47			
.....	122,993.12			
construction	33,284.20			
s in salary account	185,994.33			
.....	99,227.52			
.....	<u>\$583,509.27</u>			
Total	<u>\$5,876,184.82</u>			

audit (No. 52 made by the account-
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This gross investment includes items of property and plant that have been charged as capital accounts in the Commission's audit which do not appear as such on the company's books but there are charged as operating expense to the amount of

583,509.27

Total Gross Investment in Property and Plant as of December 31, 1923, based upon company's books

\$8,612,399.12

This gross investment includes depreciation reserve invested in property and plant to the amount of

644,749.22

Total Gross Investment in Property and Plant as of December 31, 1923, based upon company's books exclusive of depreciation reserve

\$7,967,649.90

(Here follows continuation of Defendants' Exhibit 48, marked side folio page 373)

[fol. 374] DEFENDANT CITY'S EXHIBIT NO. 48 (PERK)

Additions & Betterments—Property and Plant

Opening entry—April 23, 1881.....	\$816,061.22
Additions & betterments—by years as follows:	
April 23, 1881—December 31, 1881.....	66,286.85
12 months ended December 31, 1882.....	110,793.98
12 months ended December 31, 1883.....	71,348.50
12 months ended December 31, 1884.....	72,204.92
12 months ended December 31, 1885.....	30,725.35
12 months ended December 31, 1886.....	28,703.14
12 months ended December 31, 1887.....	34,265.76
12 months ended December 31, 1888.....	36,981.18
12 months ended December 31, 1889.....	91,732.30
12 months ended December 31, 1890.....	101,626.89
12 months ended December 31, 1891.....	68,289.30
12 months ended December 31, 1892.....	135,079.84
12 months ended December 31, 1893.....	84,414.04
12 months ended December 31, 1894.....	102,227.31
12 months ended December 31, 1895.....	130,651.26
12 months ended December 31, 1896.....	147,489.23
12 months ended December 31, 1897.....	202,122.28
12 months ended December 31, 1898.....	121,026.98
12 months ended December 31, 1899.....	73,597.19
12 months ended December 31, 1900.....	261,844.61
12 months ended December 31, 1901.....	197,045.07
12 months ended December 31, 1902.....	278,520.91
12 months ended December 31, 1903.....	487,421.78
12 months ended December 31, 1904.....	279,535.24
12 months ended December 31, 1905.....	360,720.15
12 months ended December 31, 1906.....	278,516.17
12 months ended December 31, 1907.....	270,692.52
12 months ended December 31, 1908.....	319,889.36
3 months ended March 31, 1909.....	19,477.24
12 months ended March 31, 1910.....	127,906.58
12 months ended March 31, 1911.....	152,736.76
9 months ended December 31, 1911.....	114,643.95
12 months ended December 31, 1912.....	201,612.76
12 months ended December 31, 1913.....	185,859.50
12 months ended December 31, 1914.....	394,904.29
12 months ended December 31, 1915.....	118,146.69
12 months ended December 31, 1916.....	116,951.62
12 months ended December 31, 1917.....	235,746.25
12 months ended December 31, 1918.....	96,703.00
12 months ended December 31, 1919.....	197,565.71
12 months ended December 31, 1920.....	319,157.24
12 months ended December 31, 1921.....	502,837.62
12 months ended December 31, 1922.....	300,470.21
12 months ended December 31, 1923.....	851,381.44

Total property and plant, December 31, 1923. \$9,195,908.39

NOTE.—Additions and betterments include depreciation reserve invested in property and plant and capital items charged to operating expenses.

The former totals \$644,749.22 and the latter \$583,509.27.

[fol. 375] DEFENDANT CITY'S EXHIBIT No. 49 (PERK)

Actual Investment in Real Estate as Reflected by Capital Accounts on the Books of the Company

Real Estate (one account carried from April 23, 1881 to December 31, 1912) \$379,430.40

Detailed accounts as follows (January 1, 1913, to December 31, 1923) :

Pumping station land.....	46,139.86
Source of water supply land.....	59,116.10
General office land.....	154.03
Stores dept. land.....	714.17
Other land.....	609.74
Rentals properties land.....	669.93

Total investment in real estate as per company books (capital accounts).....	\$486,834.23
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The total of real estate included in operating expenses and shown in Commission's Audit No. 62 under the caption "Capital Charges in Current Expense" is... 1,215.98

Total	\$488,050.21
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[fol. 376] DEFENDANT'S CITY'S EXHIBIT No. 50 (PERK)

Total Gross Investment to December 31, 1923

Total Gross Investment in Property and Plant as of Dec. 31, 1923, as reflected by analysis of company's books and audit of Public Service Commission on (Details shown by another exhibit) \$9,195,908.39

The equity in all other assets as of December 31, 1923 (i. e. excess of current and deferred assets over current and accrued liabilities) is..... 49,720.50

Total.....	\$9,245,628.89
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This total of \$9,245,628.89 is accounted for as follows:

A. Investment—Stocks and bonds:

Capital Stock — Common—	
Original Issue	\$500,000.00
Cash Realized from Sale of Preferred Stk.	951,375.00
Cash Realized from Sale of Bonds	2,990,533.00

Total to December, 31, 1922	\$4,441,908.00
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During 1923, extensive changes were made in the capitalization structure of the Indianapolis Water Company. Analysis of these will show that the net increase in par value of securities as of December 31, 1923, over Dec. 31, 1922, was \$1,118,000.00, and that the total discount sustained during the year 1923 was \$382,500.00. The difference then would show the added investment in the assets of the company from sale of bonds during the year..... 735,500.00

Investment—Stocks & Bonds to Dec. 31, 1923	\$5,177,408.00
--	----------------

B. Depreciation reserve invested in property & plant:

Total Accumulation Depreciation:

Reserve to December 31, 1923...	\$999,106.60
Less: Depreciation Fund on hand.	354,357.38

Depreciation reserve invested to December 31, 1923	644,749.22
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C. Surplus Invested*	3,423,471.67
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Total investment to all assets to Dec. 31, 1923	\$9,245,628.89
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[fol. 377] DEFENDANT CITY'S EXHIBIT NO. 51 (PERK)

Actual Expenditures for Overheads April 23, 1881, to December 31, 1923

In the period from April 23, 1881, to December 31, 1912, the Indianapolis Water Company charged to operating expenses (but Public Service Commission accountants in their audit No. 62, charged to capital) the following:

Salaries of Officers, Superintendents of Construction and Engineers	\$185,994.33
Organization Expenses	14,444.41
General Engineering & Superintendence, and Engineering & Superintendence on Gallery Station and New Water Supply	53,049.35
Accidents	600.00
Miscellaneous	547.79

Total charged to operating expenses	\$254,635.88
Organization Expenses charged to Capital on books of Co.	19,643.95

Total overheads	\$274,279.83
-----------------------	--------------

Property & Plant investment April 23, 1881, to Dec. 31, 1912	\$5,601,904.99
--	----------------

Per cent on this Property and Plant Investment....	5%
--	----

*This surplus represents the balance remaining in the business after the payment of all operating expenses, taxes, interest and dividends. In the instant case, it is the amount left after bondholders and stockholders had withdrawn in cash an amount equivalent to an average per annum of 6.4% for the past 42½ years on all the monies invested from all sources in the total gross property and plant.

In the period from January 1, 1913, to Dec. 31, 1923, the Indianapolis Water Company on its books charged to capital the following:

Organization Expenses	\$10,537.00
Engineering & Superintendence during construction	166,975.31
Salaries during construction	6,796.25
Office Supplies & Expenses during construction	1,678.31
Law Expense during construction	266.39
Injuries and Damages during construction	6,333.00
Insurance during construction	20,357.99
Miscellaneous Expenditures during construction	12,746.93

Total overheads	<u>\$225,691.08</u>
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Property & Plant Investment January 1, 1913, to December 31, 1923, exclusive of above	<u>\$3,094,032.49</u>
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Per cent on this Property and Plant Investment	7%
Total Actual expenditures of Overheads—April 23, 1881, to December 31, 1923	\$499,970.91
Property & Plant Investment, April 23, 1881, to Dec. 31, 1923, exclusive of above overheads	\$8,695,937.48
Per cent on this property and plant investment	5.8%

[fol. 378] DEFENDANT CITY'S EXHIBIT NO. 52 (PERK)

Analysis Showing Amount of Depreciation Reserve Invested in Property and Plant as of December 31, 1923

Total Depreciation Reserve Accumulated from April 1, 1909, to December 31, 1923	\$999,106.60
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Amount in Depreciation Fund as of December 31, 1923:

Cash—Indiana Trust Company ...	\$63,455.46
Investments—Stocks and Bonds ...	258,674.17
Accounts Receivable	32,227.75
	<u>354,357.38</u>

Amount Invested in Property and Plant	\$644,749.22
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NOTE.—Prior to December 31, 1923, the company's books do not show by specific accounts the depreciation monies invested in property and plant. The following Journal Entry was made as of December 31, 1923, and shows affirmatively that depreciation monies had been invested in property and plant and the extent of such investment made since January 1, 1917. Applying the same method also for the accumulations prior to January 1, 1917, will result in obtaining the figures above shown.

The entry is copied from company's Journal Voucher No. 1695:

Loans made from Depreciation Fund
(274) to Borrowing from Deprecia-
tion Fund (3114)..... \$214,101.34 \$214,101.34

To make record in these accounts of amounts which have in effect
been borrowed from Depreciation Fund determined by following
method:

Reserve for Depreciation Fund—Nov. 30, 1923..... \$538,106.13

Less: Amount of Depreciation Fund as of that date:

Cash.....	\$65,180.62	
Investments.....	258,824.17	
	<hr/>	324,004.79
		<hr/>
		\$214,101.34

This being done as amounts which have been taken from earnings
for depreciation on property of the company have been expended
for new construction, extensions, and addition to property of the
Company.

Journal Entry as of December 31, 1923."

[fol. 379] Analysis Showing Amounts Charged to Operating Expenses for Depreciation and Amounts Actually Expended for Depreciation Purposes, Namely, for Renewals and Replacements, April 1, 1909, to December 31, 1923

	Amount charged to expenses for depreciation	Amount actually expended for renewals & replacements
April 1, 1909, to March 31, 1910..	\$54,719.51	.....
April 1, 1910, to March 31, 1911..	55,380.87	.....
April 1, 1911, to December 31, 1911	46,991.52	\$23,077.25
January 1, 1912, to December 31, 1912	62,655.36	10,648.03
January 1, 1913, to June 30, 1913	31,327.68	121.47
July 1, 1913, to June 30, 1914....	71,827.68	24,157.42
July 1, 1914, to June 30, 1915....	81,000.00	13,272.96
July 1, 1915, to June 30, 1916....	90,000.00	1,975.16
July 1, 1916, to June 30, 1917....	87,666.66	12,157.39
July 1, 1917, to December 31, 1917	37,999.99	20,708.24
January 1, 1918, to December 31, 1918	77,929.95	15,624.61
January 1, 1919, to December 31, 1919	79,087.79	17,419.25
January 1, 1920, to December 31, 1920	80,705.50	6,410.62
January 1, 1921, to December 31, 1921	83,150.00	11,636.32
January 1, 1922, to December 31, 1922	87,206.35	1,449.29
January 1, 1923, to December 31, 1923	89,610.12	11,766.24
Totals	<u>\$1,117,266.98</u>	<u>\$170,424.16</u>

Summary April 1, 1909, to December 31, 1923

Charges to Operating Expenses for Depreciation..	\$1,117,266.98
Amount actually expended for renewals & replacements	170,424.16
Excess carried to depreciation reserve.....	\$946,842.82
Add: Amount transferred from Contingent Reserve	15,423.87
Surplus adjustment—July 1, 1917-Dec. 31, 1917.....	4,666.65*
Sale of old material—July 1, 1913, to June 30, 1917	1,441.39
Income from Investment of Depreciation Fund—1921.....	13,193.48
Income from Investment of Depreciation Fund—1922.....	11,795.00
Income from Investment of Depreciation Fund—1923.....	15,076.69
Total accumulated depreciation reserve to December 31, 1923.....	\$999,106.60

[*Red in Copy.]

NOTE.—The Company's balance sheet as of December 31, 1923, shows Depreciation Reserve at \$539,373.51. This is less than the above by the amount of \$459,733.09. This \$459,733.09 represents the Depreciation Reserve that had been accumulated prior to December 31, 1916, and was by Journal Entry eliminated from the books by a charge to fixed capital.

In other words, then, the company's present current ledges show Depreciation Reserve accumulations only since January 1, 1917.

[fol. 380] DEFENDANT CITY'S EXHIBIT NO. 53 (PERK)

Book Value of Property and Plant as of December 31, 1923

The property and plant accounts of the Indianapolis Water Company as per its books show a total as of December 31, 1923 of \$13,222,258

This amount includes the following items:

A write-up of property and plant accounts made as of March 31, 1909 as a result of an appraisal made	\$4,154,274.21
Additional write-up on real estate as of March 31, 1910	47,500.00
Placing upon the books as of March 31, 1910, a going value amount of	1,004,000.00
An amount called "Plant Equipment" as of December 31, 1912, but which as disclosed by Journal No. 5, Page 111, represents bond discount (\$37,009.82), commissions, exchange and cost of refunding (\$50,076.00) (\$16,000.00) (\$19,493.91)	122,579.73
Bond discount January 1, 1913 to March 31, 1913	28,050.00
A write-up on property and plant accounts as of December 31, 1913 "on account of pavements which have been laid during period from March 31, 1909 to December 31, 1913 over existing lines subsequent to pipe line construction"	199,667.91
Total of above	\$5,556,071.85

Less: A write-down on fixed capital accounts made of September 30, 1917 of \$459,733.09 wherein depreciation reserve accumulated prior to December 31, 1916 was eliminated from the books and of \$486,452.05 charged to surplus..	946,185.14
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Net total	\$4,609,886.71
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Balance represents total actual investment in the property and plant (and equals total as per analysis of accounts submitted in other exhibits)	\$8,612,399.00
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DEFENDANT CITY'S EXHIBIT No. 55 (PERK)

Property & Plant Values (i. e., Rate Bases) by Years Since January 1, 1917

Basis Order No. 1,400 Plus Additions & Betterments Less Accrued Depreciation and Rates of Return

	Year 1917	Year 1918	Year 1919	Year 1920	Year 1921	Year 1922	Year 1923
Value at beginning of period . .	\$9,500,000.00 #	\$9,685,253.25	\$9,719,650.91	\$9,855,548.08	\$10,100,410.44	\$10,531,726.38	\$10,746,439.44
Additions & betterments during period	235,746.25	96,703.00	197,565.71	319,157.24	502,837.62	300,470.21	851,381.44
Total	\$9,735,746.25	\$9,781,956.25	\$9,917,216.62	\$10,174,705.32	\$10,603,248.06	\$10,832,196.59	\$11,597,820.88
Less: Accrued depreciation during period	50,493.00	62,305.34	61,668.54	74,294.88	71,521.68	85,757.15	77,843.88
Value at end of period	<u>\$9,685,253.25</u>	<u>\$9,719,650.91</u>	<u>\$9,855,548.00</u>	<u>\$10,100,410.44</u>	<u>\$10,531,726.38</u>	<u>\$10,746,439.44</u>	<u>\$11,519,977.00</u>
Average value during year . . .	\$9,592,626.63	\$9,702,452.08	\$9,787,599.50	\$9,977,979.26	\$10,316,068.41	\$10,639,082.91	\$11,153,208.22

Value of all the property as of January 1, 1917 of the Indianapolis Water Company that is used and useful for the convenience of the public as found and fixed by the Public Service Commission of Indiana in Order No. 1400 approved March 15, 1917.

Note 1. In Order No. 3868, approved October 17, 1918, Public Service Commission of Indiana says, "the Commission believes that the previous valuation of the Commission should not at this time be disturbed. Permitting the valuation to stand however emphasizes the liberal treatment accorded petitioner * * *."

Note 2. In Order No. 4979, approved December 31, 1919, rates were increased to yield substantially a 7% return on \$9,853,529.08, which value was arrived at by considering value previously found plus additions and betterments minus accrued depreciation.

Note 3. In Order No. 5798, approved March 31, 1921, rates were increased to yield a return on "a total valuation for rate-making purposes, based upon the 1917 valuation of the Commission, to a total figure of \$10,814,000.00."

The figure of \$10,814,000.00 was arrived at by taking the value of the property to December 31, 1920, shown in the order at \$10,114.00, adding thereto an additional allowance of \$100,000.00 for materials, supplies, and working capital, and \$600,000.00 for estimated expenditures during 1921.



[fol. 381] DEFENDANT CITY'S EXHIBIT NO. 54 (PERK)

Capitalization as of December 31, 1923

	Par value
Common stock	\$5,000,000.00
First and refunding mortgage bonds:	
4½%—due Jan. 1, 1940.....	\$7,321,000.00
Less: 4½% gold bonds pledged	3,590,000.00
	<hr/> 3,731,000.00
Gold bonds—5½%—series of 1923, due March 1, 1953	4,500,000.00
Total outstanding capitalization as of Decem- ber 31, 1923	\$13,231,000.00

NOTE.—This capitalization includes a par value of \$7,500,000.00 of securities issued to common stockholders as dividends. These dividends (shown in detail by another exhibit) represent \$4,500,000.00 of common stock and \$3,000,000.00 of bonds.

(Here follows Defendant City's Exhibit No. 55, marked side folio page 382.)

[fol. 383] DEFENDANT CITY'S EXHIBIT No. 55 (PERK)—Continued

RATES OF RETURN ON VALUE OF PROPERTY AND PLANT, 1917-1923

	Income available for return	Average value of property and plant for year	Per cent return
Year 1917	\$564,297.32	\$9,592,626.63	5.88%
Year 1918	546,980.15	9,702,452.08	5.64
Year 1919	637,024.20	9,787,599.50	6.51
Year 1920	680,219.59	9,977,979.26	6.82
Year 1921	768,929.72	10,316,068.41	7.45
Year 1922	845,985.63	10,639,082.91	7.95
Year 1923	920,167.91	11,133,208.22	8.27

NOTE.—The property and plant values above shown represent the rate base for the particular year under all rate orders issued by the Commission since Order No. 1400, approved March 15, 1917 up to but not including the present Order No. 7080, approved November 28, 1923, establishing new rates effective January, 1924.

(Here follows Defendant City's Exhibit No. 56, marked sheets pages 384 and 385.)

[fol. 386] DEFENDANT CITY'S EXHIBIT No. 56 (PERK)—Continued

Summarized Statement of Income and Surplus, April 23, 1924
December 31, 1923

Total Revenues	\$24,488,000.00
Total Expenses	10,050,000.00

Net revenues (i. e. gross income available
for return \$14,438,000.00

Disposition of gross income available
for return as follows:

Interest on bonds, proceeds from sale of which have been used for additions and betterments, and other items carried as deductions from gross income.....	\$3,019,117.11
Interest on the bonds given common stockholders as bond dividends	3,076,250.00
Cash dividends to common stockholders	4,585,533.50
Cash dividend to preferred stockholders	150,785.21

Total cash withdrawals 10,831,685.82

Balance to corporate surplus # \$3,600,913.18

[fol. 384]

Yearly Return

Gross property and plant investment includes total investment from all sources

	Gross property & plant investment at end of period	Income and for return on gross property and plant investment
April 23, 1881 to Dec. 31, 1881.....	\$882,348.07	\$38.91
12 months ended Dec. 31, 1882.....	993,142.05	68.41
12 months ended Dec. 31, 1883.....	1,064,490.55	66.54

FOLD OUT IS TOO LARGE TO BE FILMED

Total cash withdrawals	10,001,000.0
Balance to corporate surplus #	\$3,600,913.8

It will be observed that this surplus is more than the figure of surplus shown as being invested as of December 31, 1923, in the assets of the company. The difference is explained by the fact that charges are made against surplus that do not appear in the income accounts as for example, the premium paid on the redemption of the 7% preferred stock as of July 1, 1923, on charges made against surplus for adjustments and corrections of accounts and accruals.

(Here follows continuation of Defendant City's Exhibit No. 56, marked side folio page 387.)

[fol. 388] DEFENDANT CITY'S EXHIBIT NO. 57 (PERK)

Increase in Customers and Income January 1, 1920—December 31, 1923

	Meter	Flat rate	Total
Year 1920	466	1,467	1,933
Year 1921	669	1,804	2,473
Year 1922	1,427	2,517	3,944
Year 1923	1,741	2,529	4,270
Total in Service, Dec. 31, 1923...	10,162	46,690	56,852
“ “ “ Jan. 1, 1920...	5,859	38,373	44,232
Increase—4 years	4,303	8,317	12,620
Percent—Increase	73.4%	21.7%	28.5%

Number of Services as of Dec. 31, 1923

To Commercial Consumers	60,042
To Industrial Consumers	1,964
Total to Private Consumers	62,006
To Public Buildings	601
To Public Fountain, and Troughs	74
To Public Hydrants	4,168
Total to Public Consumers	4,843
Total to Private and Public Consumers	66,849

[fol. 389] DEFENDANT CITY'S EXHIBIT NO. 57 (PERK)

Increase in Income Available for Return Compared to Expenditures
for Additions & Betterments

	Year 1922 over year 1921	Year 1923 over year 1922
Increase in Income available for return	\$77,005.91	\$74,182.28
This increase in income available for return is equivalent to:		
7% on	1,100,799.00	1,059,747.00
6% on	1,284,265.00	1,236,371.00
The actual increase in capital investment, i. e. property and plant extensions and betterments was ..	\$300,470.21	\$851,381.44

[fol. 390] DEFENDANT CITY'S EXHIBIT NO. 58 (PERK)

Income Account First 3 Months of 1924 Compared to First 3 Months
of 1923 and Comparison of Years 1922 & 1923 and Miscellaneous
and Non-oper. Revenues

	First 3 months 1923	First 3 months 1921
Operating Revenues:		
Earnings from Commercial Sales—		
Flat Rate	\$201,547.87	\$212,709.90
Earnings from Commercial Sales—		
Metered	164,594.29	214,259.36
Earnings from Industrial Sales—		
Canal Water	6,687.50	6,687.50
Earnings from Municipal Hydrant		
Rentals	61,832.53	80,125.69
Earnings from Sales to Municipal		
Depts.	1,602.06	6,051.69
Earnings from Sales for Bldg.		
Purposes	4,413.45	2,502.82
Fees for Shutting Off & Turning on		
Water	144.50	85.50
Miscellaneous Earnings	682.21	451.67
Total operating revenues...	<u>\$441,504.41</u>	<u>\$523,072.22</u>
Operating expenses:		
Pumping	68,075.23	84,259.78
Distribution	12,444.96	14,536.08
Commercial	3,108.22	2,709.46
General	34,886.10	42,461.98
Total of above	<u>118,514.51</u>	<u>143,967.30</u>

Taxes, State, County and Local...	75,000.00	75,000.00
Taxes—Federal Income	16,569.53	19,058.95
Taxes—Capital Stock	1,073.49	824.25
Depreciation	22,402.53	33,783.05
Total operating expenses ..	233,560.03	272,633.55
Net Operating Revenues	207,944.35	250,438.67
Non-Operating Revenues	6,146.25	6,548.17
Cross income available for return	214,090.60	256,986.84

NOTE.—Depreciation set up for 1924 was ordered by the Commission on the basis of "not in excess of 1.25% per annum on the cost of the depreciable property." Depreciation calculated on this basis for the first 3 months of 1924 will total \$27,077.75 or \$6,705.30 less than that shown above. Therefore the comparison corrected is as follows:

Gross income available for return.	\$214,090.60	\$263,692.14
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[fol. 391] Income Account Year 1923 Compared to Year 1922

Operating revenues:		
	Year 1922	Year 1923
Earnings from Commercial Sales—		
Flat Rate	\$788,916.35	\$831,945.12
Earnings from Commercial Sales—		
Metered	608,045.88	697,233.43
Earnings from Industrial Sales—		
Canal Water	25,825.39	27,150.02
Earnings from Municipal Hydrant		
Rentals	240,055.78	251,550.91
Earnings from Sales to Municipal		
Depts.	5,999.69	6,194.52
Earnings from Sales for Bldg.		
Purposes	26,597.08	25,601.35
Fees for Shutting Off & Turning on		
Water	522.00	430.50
Misc. Earnings from Operation...	601.80	835.35
Total operating revenues ..	\$1,696,563.97	\$1,840,971.20
Operating expenses:		
Pumping	276,492.65	287,905.48
Distribution	53,170.00	56,397.31
General	140,362.40	162,503.10
Commercial	9,916.93	11,117.97
Total of above	479,941.98	517,923.86

Taxes—State, County & Local....	242,448.47	276,254.94
Taxes—Federal	69,015.59	62,545.33
Depreciation	87,206.35	89,610.12
Total operating expenses ..	878,612.39	946,334.47
Net operating revenues	817,951.58	894,636.55
Miscellaneous & Non-Operating Revenues	28,034.05	25,531.16
Gross income available for return	845,985.63	920,167.71
Deductions from gross income:		
Interest on Funded Debt.....	285,141.25	383,135.15
Pennsylvania State Tax Refunds..	1,326.32	1,702.44
Interest on Floating Debt	601.98	1,483.50
Amortization of Bond Discount & Expense	6,300.00	18,401.30
Miscellaneous Deductions.....	12.45	.....
Donations	1,795.00	3,773.92
Total deductions	295,177.00	408,496.31
Net income	\$550,808.63	\$511,671.57
Disposition of net income:		
Preferred Stock Dividends (7%)..	69,709.84	35,595.00
Common Stock Dividends (8%)..	400,000.00	400,000.00
Discount on Preferred Stock	6,000.00	3,000.00
Total disposition	\$475,709.84	\$438,595.00
Surplus for period	\$75,098.79	\$73,076.57

[fol. 392] Miscellaneous and Non-operating Revenues

	Year 1922	Year 1923	First 3 months 1923	First 3 months 1924
Profit on Mdse. Sales	\$3,702.35	\$3,921.79	\$482.21	19.34*
Profit on Piping & Connection . .	2,112.30	319.63	239.23	195.89
Rents from Lands, Bldg. & Apparatus	10,238.18	13,623.43	3,042.54	3,352.89
Interest on Deposits	10,087.10	6,122.21	1,767.18	2,126.77
Interest and Dividends from Investments	1,894.12	1,544.10	386.02	396.04
Cash Discounts on Materials & Supplies			229.07	496.01
Total	28,034.05	25,531.16	6,146.25	6,548.17

NOTE.—The Yearly totals from Cash Discounts, 1922—\$15.13 and 1923—1,595.63 given effect in income accounts by credit to general expenses.

[fol. 393] DEFENDANT CITY'S EXHIBIT NO. 59 (PERK)

Estimated Return Year 1924 under Rates as Authorized in Commission's Order No. 7080, Effective January 1, 1924

Gross Revenues for 1924 and Estimated Operating Expenses for 1924

Estimated Gross Revenues	\$2,223,758.92
Estimated Operating Expenses, including taxes & depreciation	1,102,208.73
Income available for return	\$1,121,550.19

Income Available for Return Above Shown is the Equivalent of the Following Per Cents on the Respective Property and Plant Figures

Original cost of all property and plant less Depreciation Reserve invested in same as of December 31, 1923, is	\$8,551,159.17	13.1%
Value as of December 31, 1923, on the basis of Commission Order No. 1400, approved March 15, 1917, plus net additions . . .	11,519,977.00	9.7%
Value as of December 31, 1923, on the basis of Commission's Order No. 7080, approved November 28, 1923, which fixed the value as of May 31, 1923, of \$15,260,400, plus net additions	15,940,903.81	7.0%

[*Red in original.]

This income available for return of \$1,121,550.19 equivalent of 6% on \$18,692,503.00, or the equivalent of 9.3% on \$12,000,000.00.

[fol. 394] Estimates of Gross Revenues Year 1924 under Rates as Authorized in Commission's Order No. 7080, Effective January 1, 1924

	Total revenues (operating plus non-operating)
First 3 months of 1923 totaled	\$447,650.66
Year 1923 totaled	\$1,866,502.36
Per cent first 3 Months to Year	23.98%
First 3 Months of 1924 totaled	\$529,620.39

Assuming this to equal same per cent as above of Year 1924, then:

Year 1924 will equal	\$2,208,758.92
To this should be added, approximately \$15,000.00 on account of municipal services during spring and summer months to parks, golf courses, recreation centers, etc., which were free during 1923 but which now are to be sold under established rates. Figures above would not reflect added revenues to be derived from this source	15,000.00
Total estimated 1924	\$2,223,758.92
Estimated 1924	\$2,223,758.92
Actual 1923	1,866,502.36
Increase in gross revenues	\$357,256.56

[fol. 395] Estimated Operating Expenses Year 1924

The total of the pumping, distribution, commercial and general expenses for the first 3 months of 1923 was	\$118,514.51
The total of above for the year 1923 was	517,923.86
Per cent first 3 months to year# (See Note Below)	23.41%

NOTE.—For all months from April to December, 1923, inclusive, a charge of \$750.00 per month was made to account "Public Service Commission Expenses" For all months from May to December, 1923, inclusive, a charge of \$500.00 per month was made to the account "Maintenance Collecting Aqueducts, Intakes and Supply Mains." These charges were not made during the first 3 Months of 1923 but were made during the first 3 months of 1924. In order that a calculation embodying the relationship of the first 3 Months periods and the year periods will give proper consideration of the facts, the per cent above shown is determined by adding \$3,750.00 (3 x 750 plus 3 x 500) to the \$118,514.51 to obtain a total of \$122,264.51 which is then divided by \$522,173.86 (which is \$517,923.86 plus \$3,750.00 plus \$500.00).

The total of the pumping, distribution, commercial, and general expenses for the first 3 months of 1924 was	\$143,967.30
Assuming this to equal same per cent as above of [fol. 396] Year 1924, then Year 1924 will equal....	\$614,982.06
Total estimated pumping, distribution, commercial and general expenses, year 1924, as per previous page.....	\$614,982.06
State, County, and Local Taxes—Year 1923, payable Year 1924.....	\$276,254.94
Add Increased Taxes on Additions since last assessment—approximately	20,000.00
	<hr/> 296,254.94
Federal Income Taxes—Actual accrual per company books for first 3 months of 1924 was \$19,058.95 which is 3.60% of the total gross revenues. Applying the same basis, (i. e. 3.6% of gross) to the estimated gross revenues of 1924, will give the income tax accrual of	80,055.32
Capital Stock Taxes—4 times the charge for the first 3 months of 1924, i. e. (4 times \$824.25)	3,297.00
Depreciation on the basis of 1¼ % of the cost of the depreciable property	107,619.41
	<hr/>
Total estimated operating expenses—year 1924	\$1,102,208.73

[fol. 397] DEFENDANT CITY'S EXHIBIT NO. 60 (W. BEMIS)

Study Based on Appraisal of Public Service Commission of Indiana as of April 1, 1920, and Net Additions to December 31, 1923

The canal, from a point north of Holton Place down to the Washington Street Station, together with the land, equipment and buildings at the station, are all used and useful to the water works property mainly on account of the hydraulic power developed at the station. Incidentally, an old pump room is used for the storage of some construction supplies. The 1911-20 reproduction cost new of these items of property is \$1,609,312.49 and the reproduction cost new less accrued depreciation \$1,396,170.54.

The water consumers should not be required to pay a return on this property in excess of its value as a producer of water power for pumping purposes. This is especially true since superior service to that now rendered by the Washington Street Station could be furnished by installing a 15,000,000 gallon pump at Riverside Station, together with the necessary additional boiler capacity. This pump would supply the area now fed by the Washington Street Station through a new 30" transmission main connecting the Riverside Station with the present mains fed by the Washington Street Station. The cost of the above additions and changes is estimated at \$267,-

306.00, further details of which are found on a later page in this report.

The proposed 15,000,000 gallon unit could have pumped all the water actually pumped at the Washington Street Station during the 12 months ended Dec. 31, 1923, for an increase of \$52,065.44 over the actual operating expenses incurred. This increase in the operating expenses equals \$743,792.00 when capitalized at 7%. The summation of the \$267,306.00 and \$743,792.00 gives \$1,011,098.00 which is the total capitalized cost of substituting steam power at the Riverside Station for hydraulic power at the Washington Street Station. The cost of this substitution is \$598,214.49 less than the Commission's 1911-20 reproduction cost new of the hydraulic property lying south of Holton Place, and \$385,072.54 less than this reproduction cost new less accrued depreciation.

[fol. 398] In addition to the above saving in operating expenses due to substituting steam for hydraulic power, there is also a saving in taxes to be considered. The present tax rate is \$2.48 per \$100.00 of full value in Indianapolis. At that rate the taxes on the existing hydraulic property are \$39,901.95 per annum when figured on the cost new and \$34,625.03 per annum on the cost new less accrued depreciation. Using the same rate of \$2.48 per \$100.00 the taxes on the substitute steam plant would be \$6,629.19 per annum on both the cost new and the cost new less accrued depreciation. This makes a net annual saving in taxes due to the elimination of the hydraulic property of \$33,272.76 when figured on the cost new and \$27,995.84 when figured on the cost new less accrued depreciation. These totals, when capitalized at 7%, equal \$475,325.14 as the cost new and \$399,940.57 as the cost new less accrued depreciation. We thus arrive at the total capitalized value of the saving from the substitution of steam of \$598,214.49 plus \$475,325.14, or \$1,073,539.63, on the cost new and \$385,072.54 plus \$399,940.57, or \$785,013.11, on the cost new less accrued depreciation.

It was further found that the actual structural overheads as recorded on the books of the company amounted to approximately 7% of the total cost of construction for the period 1911-20 inclusive. The commission has included in its appraisal 15% for these structural overheads. It is our contention that only the structural overheads as set up on the books of the company should be included in the rate base and for that reason we have made an adjustment reducing the structural overheads from 15% to 7%. This adjustment is \$715,527.05 for the cost new and \$496,702.28 for the cost new less accrued depreciation.

If other uses to which the canal can be put will not yield a revenue sufficient to carry the excess of the true value of the hydraulic property over the cost of substituting steam pumping equipment, it should be sold.

After giving effect to the adjustment in the reproduction cost of the hydraulic property, the reproduction cost new becomes \$12,216,508.05 and the reproduction cost new less accrued depreciation \$9,220,214.18.

Summary

Appraisal as of April 1, 1922:		Commissioner's cost new adjusted	Annual depreciation	Adjusted cost new less accrued depreciation
Total Cost excluding Structural Overheads.....		\$12,294,135.00	\$158,640.19	\$9,088,220.67
Structural Overheads on Land.....		371,466.30	.....	371,466.30
Structural Overheads on Structures.....		1,457,684.70	23,086.54	998,031.69
Total as of April 1, 1922		\$14,123,286.00	\$181,726.73	\$10,457,718.66
Net additions from Apr. 1, 1922, to December 31, 1923..		1,005,495.00	12,332.52	1,001,588.76
Total as of December 31, 1923		\$15,128,781.00	\$204,059.25	\$11,459,307.42
Deduct:				
Structural Overheads on land		371,466.30	.....	371,466.30
Cost incurred in the accumulating of Right of Way, etc...		150,000.00	.....	150,000.00
Total Overheads on Land		\$521,466.30	.....	\$521,466.30
Total after deducting Overheads on Land		\$14,607,314.70	\$204,059.25	\$10,937,841.12
Cast Iron Pipe adjustment:				
Base Cost		\$523,252.15	\$6,084.33	\$379,053.53
Structural Overheads		78,487.82	912.65	56,858.02
Total Adjustment for Cast Iron Pipe		\$601,739.97	\$6,996.98	\$435,911.55

Summary—Continued

	Commission's cost new adjusted	Annual depreciation	Adjusted cost new less accrued depreciation
Net after giving effect to Cast Iron Pipe Adjustment ..	\$14,005,574.73	\$197,062.27	\$10,501,929.57
Hydraulic Property adjustment:			
Base Cost	\$560,714.69	\$3,536.80	\$375,373.86
Structural Overheads	37,499.80	530.52	9,698.68
Capitalized savings in Taxes	475,325.14	.....	399,940.57
Total adjustment for Hydraulic Property	\$1,073,539.63	\$4,067.32	\$785,013.11
Net after giving effect to Hydraulic Property adjustment.	\$12,932,035.10	\$192,994.95	\$9,716,916.46
Structural Overhead adjustment	715,527.05	11,542.41	496,702.28
Net as of December 31, 1923, after giving effect to all adjustments	\$12,216,508.05	\$181,452.54	\$9,220,214.18

	Commission's cost new	Weighted average		Annual depreciation	Cost new less accrued depreciation
		Age	Life		
Land	\$19,109.00	....	....	.....	\$19,109.00
Transmission and Distribution	886,247.00	.3	88.9	\$9,969.03	883,256.29
Building & Misc. Structures	14,615.00	.7	82.9	176.30	14,491.59
Plant Equipment	34,763.00	.3	31.8	1,093.17	34,435.05
General Equipment	13,944.00	.5	22.0	633.81	13,627.10
Paving (included with transmission & distribu- tion) .....	.....	....	....	.....	.....
Materials and Supplies .....	.....	....	....	.....	.....
Total	\$968,678.00	....	....	\$11,872.31	\$964,919.03
Structural Overheads	36,817.00	....	....	460.21	36,669.73
Total net additions	\$1,005,495.00	....	....	\$12,332.52	\$1,001,588.76

[fol. 401]

Summary

Inventory as of December 31, 1923, Depreciated as of April 1, 1924

Land	Commission's cost new	Weighted average		Annual depreciation	Cost new less accrued depreciation
		Age	Life		
As of April 1, 1922	\$2,476,442.00	....	....	.....	\$2,476,442.00
Net Additions Apr. 1, 1922, to Dec. 31, 1923..	19,109.00	....	....	.....	19,109.00
Total as of Dec. 31, 1923	\$2,495,551.00	....	....	.....	\$2,495,551.00
Transmission and Distribution as of Apr. 1, 1922	5,463,825.00	22.4	75.9	\$71,941.33	3,854,797.48
Net Additions Apr. 1, 1922, to Dec. 31, 1923..	886,247.00	.3	88.9	9,969.03	883,256.29
Totals as of Dec. 31, 1923	\$6,350,072.00	....	....	\$81,910.36	\$4,738,053.77
Buildings & Misc. Structures as of Apr. 1, 1922	\$1,959,817.00	16.7	58.8	33,295.18	1,402,040.50
Net additions Apr. 1, 1922, to Dec. 31, 1923..	14,615.00	.7	82.9	176.30	14,491.59
Total as of Dec. 31, 1923	\$1,974,432.00	....	....	\$33,471.48	\$1,416,532.09

Plant Equipment:

As of Apr. 1, 1922	20.4	44.4	\$46,885.68	\$1,124,301.67
Net additions Apr. 1, 1922, to Dec. 31, 1923..	.3	31.8	1,093.17	34,435.05
Totals as of Dec. 31, 1923 .....	....	....	\$47,978.85	\$1,158,736.72

General Equipment:

As of Apr. 1, 1922	10.5	22.0	5,422.31	62,583.87
Net additions Apr. 1, 1922, to Dec. 31, 1923..	.5	22.0	633.81	13,627.10
Total as of Dec. 31, 1923 .....	....	....	\$6,056.12	\$76,210.97

Paving:

As of Apr. 1, 1922	23.7	86.0	1,095.69	68,262.15
Net additions Apr. 1, 1923, to Dec. 31, 1923 (included with transmission & distribution..	....	....	....	....
Total as of Dec. 31, 1923 .....	....	....	\$1,095.69	\$68,262.15

Materials & Supplies:

As of April 1, 1922 .....	....	....	....	99,793.00
Net additions Apr. 1, 1922, to Dec. 31, 1923..	....	....	....	....
Total as of Dec. 31, 1923 .....	....	....	....	\$99,793.00

Grand Total as of Dec. 31, 1925, Exclud-
ing Structural Overheads

\$13,262,813.00

\$170,512.50

\$10,053,139.70

[fol. 402]

DEFENDANT CITY'S EXHIBIT No. 60 (Bemis)—Continued

Deductions—Cast-iron Pipe

Inventory as of April 1, 1922, Depreciation as of April 1, 1924

Size	Length in feet	Difference in price per foot	Total difference	Age	Life	Annual depreciation	Cost new less accrued depreciation
3"	1,155	\$.1233	\$142.41	....	..	.....	.....
4	73,384	.1085	7,962.16	....	..	.....	.....
6	1,217,109	.1328	161,632.08	....	..	.....	.....
8	448,536	.1906	85,490.96	....	..	.....	.....
10	97,135	.2542	24,691.72	....	..	.....	.....
12	285,040	.3369	96,029.98	....	..	.....	.....
16	113,776	.4971	56,558.05	....	..	.....	.....
20	44,483	.6956	30,942.37	....	..	.....	.....
24	20,157	.9703	19,558.34	....	..	.....	.....
30	2,863	1.3178	3,772.86	....	..	.....	.....
36	11,036	1.7852	19,701.47	....	..	.....	.....
Class C:							
24	16,045	1.0223	16,402.80	....	..	.....	.....
40	122	2.2864	278.94	....	..	.....	.....
Class D:							
8	413	.2131	88.01	....	..	.....	.....
Total base cost			\$7,523,257.21	23	7	84.6	\$61,468.12
							\$61,468.12

INDEX NUMBERS.

230
220
210
200
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170
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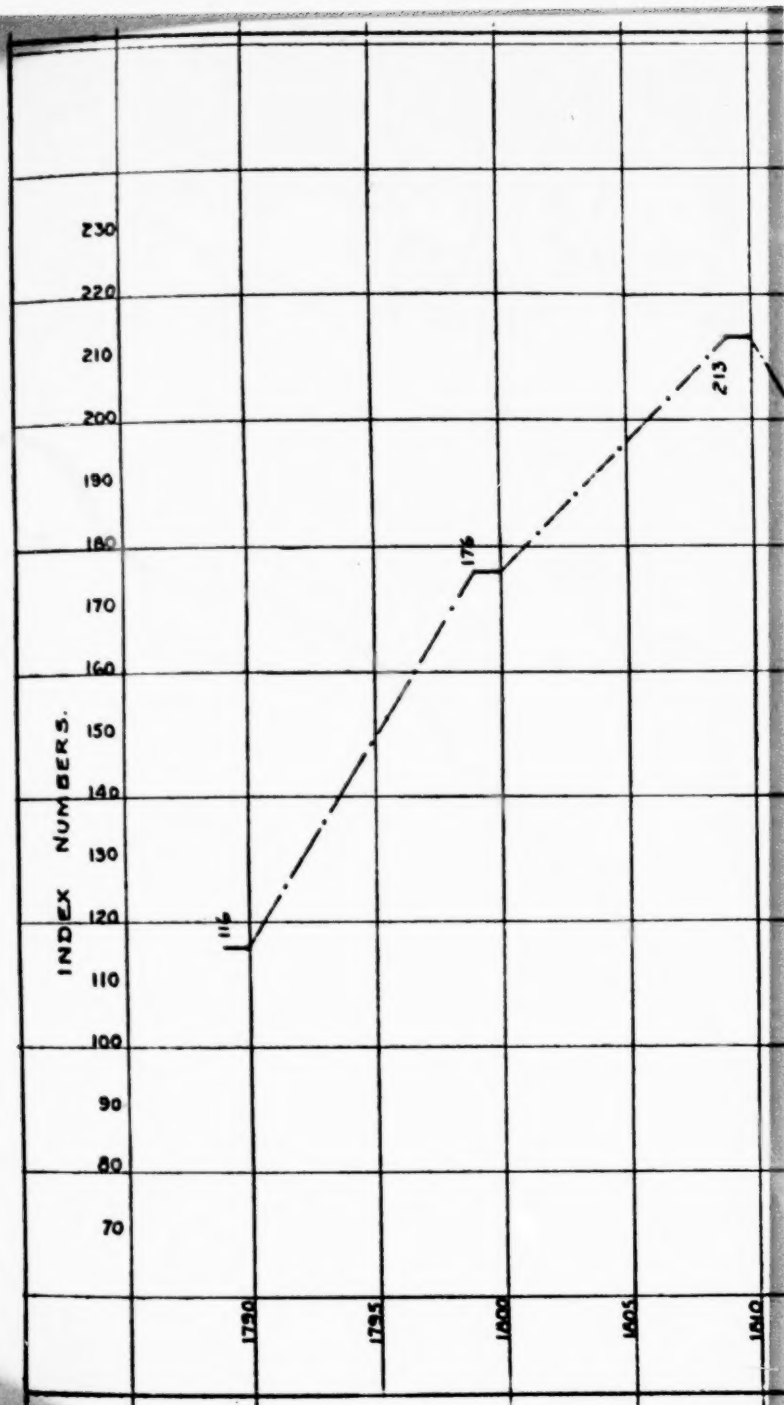
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Defendants Exhibit No 61

AVERAGE INDEX OF WHOLESALE PRICES.

ON ALL COMMODITIES.

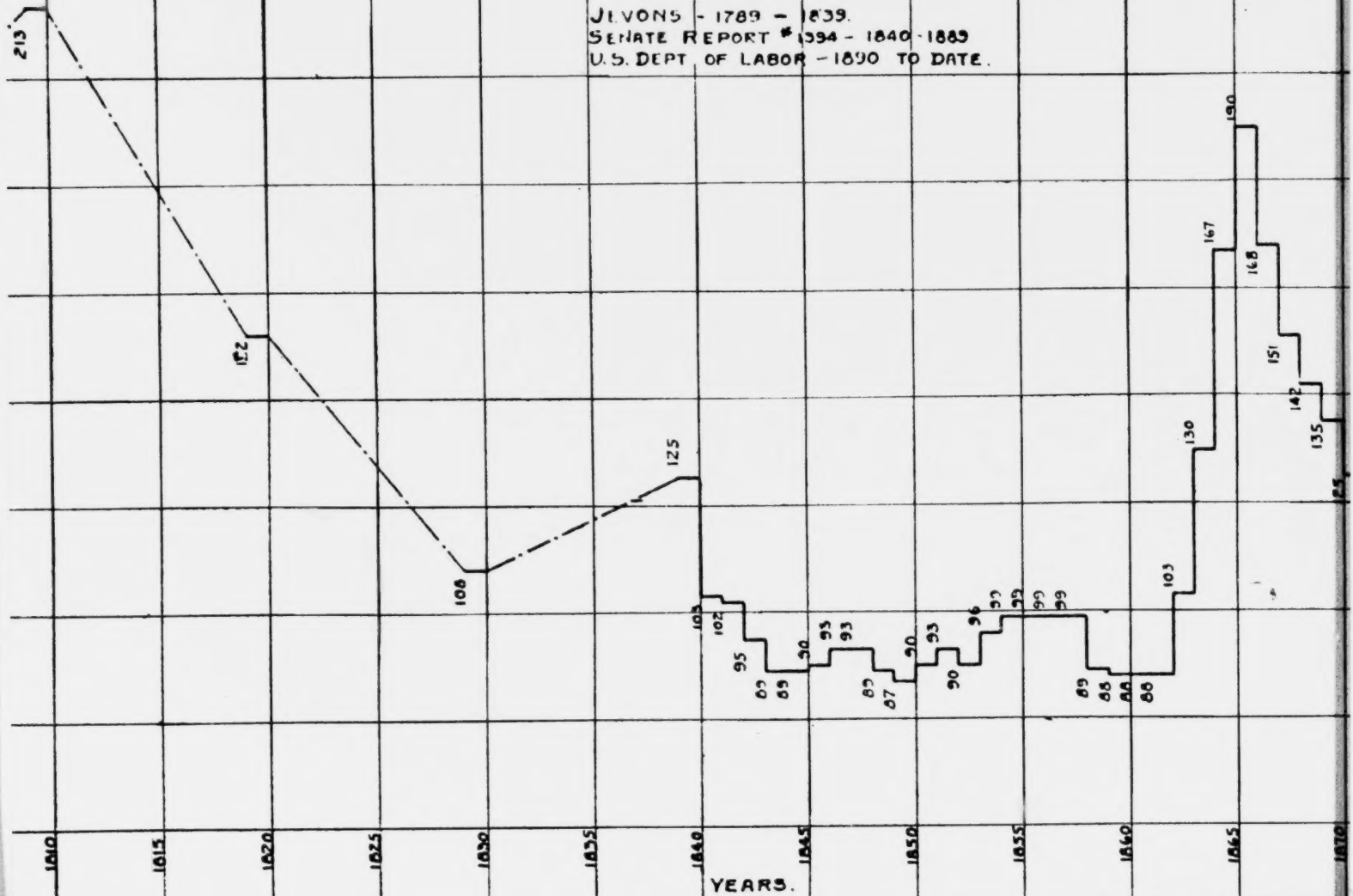
1913 = 100%.

COMPILED BY:-

JEVONS - 1789 - 1839.

SENATE REPORT # 1394 - 1840 - 1889

U.S. DEPT OF LABOR - 1890 TO DATE.

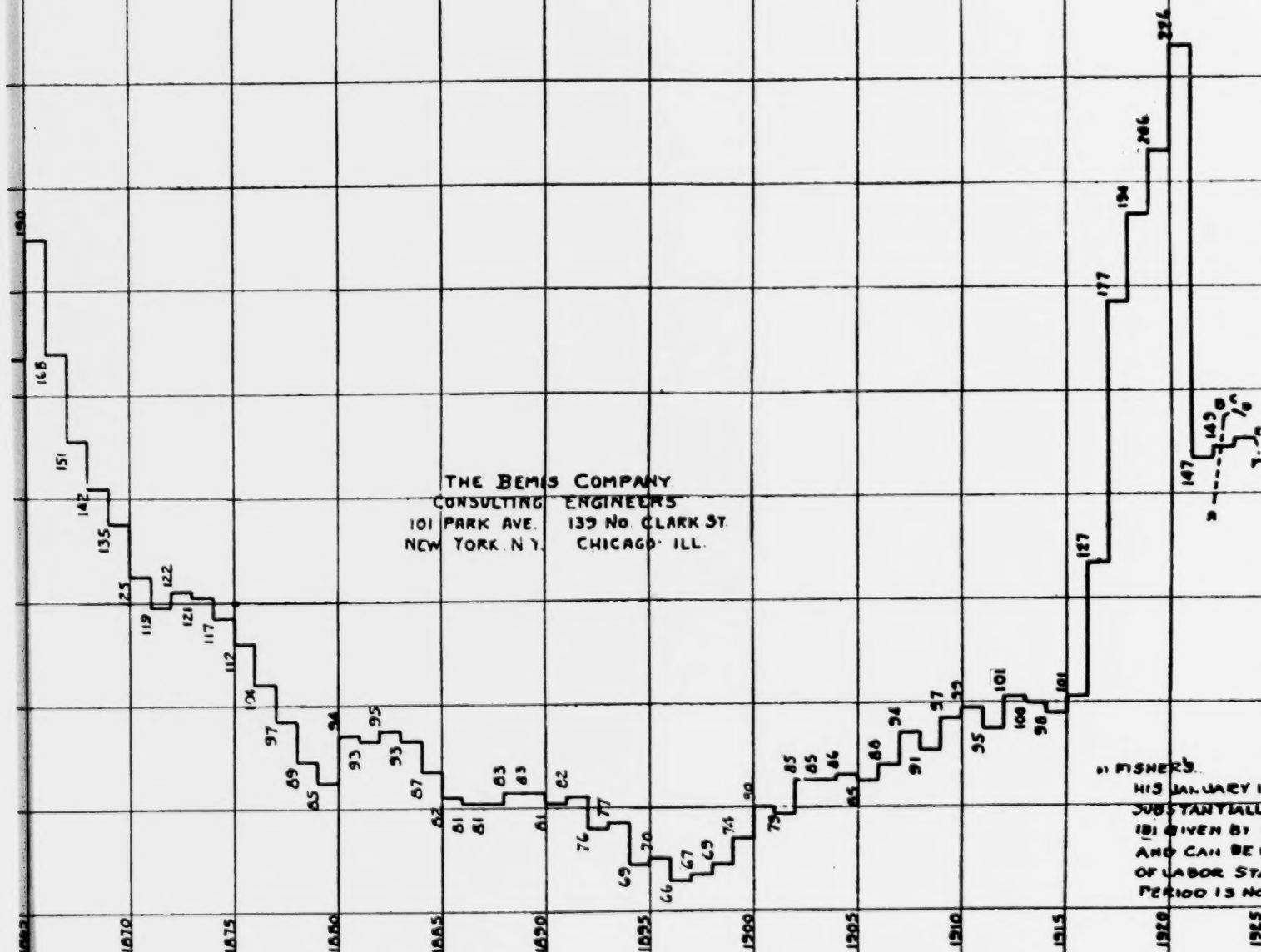


THE BEMIS COMPANY
CONSULTING ENGINEERS
101 PARK AVE. 135 NO. CLARK ST.
NEW YORK, N.Y. CHICAGO, ILL.

1. FISHERY.

HIS JANUARY INDEX IS 131.4 OR
SUBSTANTIALLY THE SAME AS THE
131 GIVEN BY U.S. DEPT. OF LABOR
AND CAN BE USED AS U.S. BUREAU
OF LABOR STATISTICS ON THAT
PERIOD IS NOT YET OUT. (4-21-26)

A - JAN 1922 - 138
B - JULY 1922 - 153
C - JAN 1923 - 156
D - JUNE 1923 - 153
E - JAN. 1924 - 154
F - APR. 12, 1924 - 146





[fol. 403] Excess of Commission's Price for Cast-iron Pipe Over
Weighted Average Cost 1911-20, Inclusive

Size	Commis- sion's 1911-20 price per ton of C. I. f. o. b. pipe Indianapolis	Weighted average cost per ton to company 1911-20	Excess of Commission's average cost 1911-20	
			Per ton	Per foot
3"	\$43.3964	\$29.03	\$14.3664	\$.1233
4"	38.8007	29.03	9.7707	.1085
6"	36.5791	29.03	7.5491	.1328
8"	26.5791	29.03	7.5491	.1906
10"	36.5791	29.03	7.5491	.2542
12"	36.5791	29.03	7.5491	.3369
16"	36.2780	29.03	7.2480	.4971
20"	36.2780	29.03	7.2480	.6956
24"	36.2780	29.03	7.2480	.9703
30"	36.2780	29.03	7.2480	1.3178
36"	36.2780	29.03	7.2480	1.7852
Class C...	36.2780	29.03	7.2480	.....
24"	36.2780	29.03	7.2480	1.0223
40"	36.2780	29.03	7.2480	2.2864
Class D...	36.2780	29.03	7.2480	.....
8"	36.5791	29.03	7.5491	.2131

Weighted Average Price Paid by Company for Cast-iron Pipe, 1911
to 1920, Inclusive

Year	Tons of 2,000 lbs. bought	Weighted average cost per ton	Total cost
1911.....	1,293	\$23.08	\$29,842.44
1912.....	2,656	23.12	61,406.72
1913.....	2,740	24.54	67,239.60
1914.....	5,598	21.65	121,196.70
1915.....	2,150	21.38	45,967.00
1916.....	1,794	25.58	45,890.52
1917.....	2,045	45.88	93,824.60
1918.....	864*	58.99	21,472.36
1919.....	378*	56.08	21,198.24
1920.....	1,478*	58.90	87,054.20
Total	28,495	\$29.03	\$595,092.38

(Here follow Defendant's Exhibits Nos. 61 and 61a, marked side
folio pages 404 and 405)

*Tonnage estimated from length of pipe laid.

Flotation of Public Utility Securities, 1903 to 1924

In Moody's rating book service, public utilities 1923, Pages XVI, XVII, referring to the investment of new capital of more than \$600,000,000 annually in public utility business aside from steam railroads, the following statement is made: "These companies, however, do not pay a high price for new capital. They are able to obtain it at a moderate cost, because owing to the natural growth of towns and cities, and to the generally reasonable attitude of public utility commissions, the capital so invested has good earning power. The following averages of the prices of capital are based upon large numbers of new issues made during the respective periods, the data used being the net yields to investors.

Year	Public utilities
1903	4.63%
1904	4.60%
1905	4.43%
1906	4.56%
1907	4.91%
1908	5.11%
1909	4.71%
1910	4.79%
1911	4.77%
1912	4.80%
1913	4.90%
1914	5.01%
1915	4.81%
1916	5.46%
1917	5.40%
1918	5.66%
1919	6.30%
1920	7.61%
[fol. 407] 1921—1st half	7.83%
1921—2nd half	7.36%
1922—1st quar.	6.92%
1922—2nd quar.	6.20%
1922—3rd quar.	6.38%
1922—4th quar.	6.24%
1923—1st quar.	6.09%

The Commercial and Financial Chronicle in the last issue of every month gives the yield to the investor on all flotations of the previous month. They harmonize quite closely with the figures just quoted from Moody. They also cover January and February, 1924. The following table shows a slight upward movement in 1923 and a rapid fall in the first two months of 1924, as follows:

Bond Flotations

	Number of flotations	Return to investor
July-December, 1921.....	67	7.33%
January-June, 1922	127	6.54
July-December, 1922	80	6.12
January-June, 1923	106	6.19
July-December, 1923	97	6.36
January, 1924	25	6.29
February, 1924	22	6.11
	<hr/> 524	

[fol. 408]

DEFENDANT'S EXHIBIT 63

A post card mailed by complainant to a consumer after publication of Order 7080:

"The water rate on this property has not been increased.

"The Indianapolis Water Company desires to furnish its customers with the real facts in the recent order issued by the Public Service Commission.

"More than 40,000 consumers were not affected in any way by this order.

"Your rate remains unchanged.

Indianapolis Water Co."

[fol. 409]

DEFENDANT'S EXHIBIT NO. 64

Dissenting Opinion in Order 7080

Dissenting Finding and Opinion by Commissioners Wampler and Artman

On June 8, 1923, the Indianapolis Water Company filed with the Public Service Commission of Indiana its application to increase its rates for water in the City of Indianapolis which application was superseded by an amended application filed on July 14, 1923.

That the City of Indianapolis on July 18, 1923 filed its written objections to petitioner's amended application.

That on July 18, 1923 John F. White, Thomas P. Woodson, Lewis C. Fellows, George W. Beeman, Philip H. Tant, Ray Thompson, Pearl Randall, William J. Probst, William H. Moore, William M. Swain, filed their petition to be made parties defendant and their answer containing the following allegations:

That the future requirements of this City cannot be made the basis of an increase of water rates against the present rate bearers and that it is the duty of said Water Company to provide the facilities for the

future water requirements of this City and not until they are installed will said Water Company be entitled to an increase in rates on account thereof.

For answer to the 10th paragraph to said Water Company's petition they deny the first allegation therein contained and for the answer to the remainder thereof they say that it is not the duty of the rate payers of this City to finance said Water Company's disbursements but that it is the duty of said Water Company to provide the same in such manner as it may see fit either by borrowing funds or increasing its common stock and selling the same on the market.

That on July 18th the Indianapolis Chamber of Commerce filed its written appearance and objections to the petitioner's application in the words following:

"The Indianapolis Chamber of Commerce, a civic body of more than four thousand members in the City of Indianapolis who are users of water in said city, hereby enters its appearance in the above matter and;

"1. Objects to any increase in the valuation of the property of the company.

"2. Objects to any increase in the rates of the Indianapolis Water Company.

"3. Demands a reduction in the valuation of the property of the said company.

"4. Demands a reduction in the rates now in force."

[fol. 410] The evidence was heard by the four members of the Public Service Commission and the cause continued for argument. That prior to the hearing of the argument two members of the Public Service Commission resigned. New members were appointed to their places. That argument was heard by the whole Commission on September 27th, 28th and October 2, 1923 and the matter was taken under advisement and consideration by the full membership of the Public Service Commission of Indiana.

Being unable to join in the finding of the majority of the Commission, we respectfully submit that the facts established by the evidence are and should be found to be as follows, to wit:

That the petitioner, the Indianapolis Water Company is a corporation organized and existing under the laws of the State of Indiana, and as such, is engaged in the business of supplying water to the city of Indianapolis and the inhabitants thereof.

That on the 23rd day of April 1881, the organizers of said company purchased at judicial sale, all the property, rights and franchises of the Water Works Company of Indianapolis and assigned them to petitioner.

The Water Works Company of Indianapolis was incorporated in 1869 and in January 1870 entered into a contract with the City of Indianapolis to supply it and its inhabitants with water. It began to supply water under said contract in October 1871 and continued

such service until its property rights and franchises were sold at the judicial sale aforesaid. That the sum paid for said property, rights and franchises by the organizers of the petitioner was \$535,000.00. That said property, rights and franchises with additions thereto since said purchase, constitute the plant with which the petitioner is now supplying water to the city of Indianapolis and its inhabitants.

Order 1400

That the first valuation of the petitioner's used and useful property, devoted to the Indianapolis water service, was made by the Public Service Commission of Indiana, on March 15, 1917 by its order number 1400. The value of such property was thereby determined to be not less than \$9,500,000.00 and consumer's rates were established thereon by the Commission effective on and after May 1, 1917.

Order 3868

On May 18, 1918, the Indianapolis Water Company filed its petition "to revise and increase its water rates." The Commission held this petition to be an emergency application under Section 122 of the Shively-Spencer Utility Commission Act.

The valuation made in order 1400 was sharply criticized and certain items that properly should be deducted therefrom were pointed [fol. 411] out, but as that case, No. 3868, was an emergency application, the value for emergency purposes was fixed by adding to \$9,500,000.00 (the value fixed in order 1400) the sum of \$164,000.00, the amount of the additions and betterments made since March 15, 1917, less depreciation. The value for emergency relief therefore was fixed by the Commission in Order 3868 at \$9,664,000.00.

P. U. R. 1919, A, p. 450, 474, 485.

In order to grant the petitioner temporary relief, an increase in rates was made, effective from and after November 1, 1918 to continue in force only during the period of the war, and not to exceed two years from November 1, 1918.

Order 4979

On December 31, 1919, the Commission made Order 4979, whereby the petitioner was given the second increase in rates.

The valuation in this order was fixed at \$9,853,529.08, and was ascertained by adding to the value fixed in order 3868 (\$9,664,000.00) the net additions and betterments in the sum of \$189,529.08, made subsequent to order 3868.

Order 5798

Again, on the 21st day of March, 1921, the Commission, by its order 5798 gave the petitioner a third increase in rates. The value in

this order was placed at \$10,814,000.00. This value was arrived at by adding to the value fixed in 1917 (Order 1400) "the betterments and extensions now under way and those effected since the date of said valuation." While this order (5798) was made on the 21st day of March, 1921, it included an estimate of \$600,000.00 for betterments and extensions to be added within the entire year of 1921 when in fact only the sum of \$375,957.62 was actually added within that period which means that an excess of \$224,042.38 was included for the item of betterments and extensions. An additional allowance of \$100,000.00 for working capital was included in this order. \$75,000.00 had been granted in Order 1400. On June 1, 1922, the Indianapolis Water Company filed its petition requesting the Commission to value, for security purposes only, all of its property including both that which was then used and useful in its service, and also its non-operative property. On this petition Order 6613 was issued on January 2, 1923, by which the value of all the property of the company as of October 31, 1922, was fixed at \$16,455,000.00.

The valuation was itemized as follows:

[fol. 412] 1. Physical Property.....	\$14,904,000.00
2. Going value and water right (9½ %)	1,416,000.00
3. Working Cash Capital.....	135,000.00
	<hr/>
	\$16,455,000.00

The sum of \$14,904,000.00 for physical property was made up of the following items, to wit:

a. Land	\$2,949,438.00
b. Trans. and Dist.....	5,631,141.00
c. Buildings & Miscellaneous Structures.....	1,977,506.00
d. Plant Equipment.....	1,932,601.00
e. General Equipment.....	95,976.00
f. Paving	96,887.00
g. 15% on all of the above.....	1,902,532.00
h. Materials and supplies.....	102,997.00
i. Capital additions from April 1, 1922 to Oct. 31, 1922 at actual cost.....	215,000.00
	<hr/>
	\$14,904,000.00

Then 9½ of this amount for going value and water rights	1,416,000.00
Working Cash Capital.....	135,000.00
	<hr/>
Total	\$16,455,000.00

On items a, b, c, d, e, and f, amounting to \$12,683,549 an allowance of 15% was made in item g for structural overheads amounting to \$1,902,532. Then on the sum of these two items (as well as on other sums) an additional allowance of 9½ % was made for going value and water rights. In other words, upon items a, b, c, d, e,

and f, (\$12,683,549) an allowance of 25.925 per cent (\$3,288,210) was made for the intangible items of structural overheads, going value and water rights. So that the items in the valuation may be restated as follows:

a. Land	\$2,949,438.00
b. Trans. and Dist.....	5,631,141.00
c. Buildings & Miscellaneous Structures.....	1,977,506.00
d. Plant equipment.....	1,932,601.00
e. General Equipment.....	95,976.00
f. Paving	96,887.00
Total of these items.....	<u>\$12,683,549.00</u>
g. Add 25.925 per cent of this sum for structural overheads, going value and water rights.....	3,288,210.00
h. Materials and supplies.....	102,997.00
i. Capital additions from April 1, 1922 to October 31, 1922 at actual cost.....	215,997.00
j. 91½% of the sum of items h and i (\$317,997) for going value and water rights.....	30,209.00
k. Working Cash Capital.....	<u>135,000.00</u>
Total	<u>\$16,454,965.00</u>

[fol. 413] The Commission in Order 6613 used the round number and designated the value as \$16,455,000.00.

Basis of the Valuation in Order 6613

The valuation in Order 6613 was made on the following basis:

1. The then estimated market value of the land.
2. The estimated cost of reproducing the transmission and distribution, the buildings and miscellaneous structures, the plant equipment, the general equipment and paving on the average level of labor and material prices for the ten year period ending December 31, 1921.
3. Then on the sum of all these items 15% was added for structural overheads.
4. Then to the amount thus obtained \$102,997 for material and supplies and \$215,000 for capital additions from April 1, 1922 to October 31, 1922 (amounting to \$317,997) were added.
5. Then on the sum thus produced 91½% was added for going value and water rights.
6. Then to this sum were added \$135,000 for working cash capital, completing the valuation of \$16,455.00.

Rate Valuations

The valuations made in orders 1400, 3868, 4978, and 5798 were all made for rate purposes.

Values and Rates Accepted by the Petitioner

The valuations made in Orders 1400, 3868, 4978 and 5798 together with the rates established thereon were all accepted by the petitioner.

Working Cash Capital

By Order 1400	\$75,000.00
By Order 6613 (dated Jan. 2, 1923)	135,000.00
The flat rate customers of the petitioner pay their bills three months in advance. The flat rate users paid in advance in the year 1922 more than	800,000.00
The current operating expenses for the same year were less than	500,000.00
During the same period the petitioner received as interest on its cash deposits \$10,087.10 so that if it received four per cent interest on its daily balances, these daily balances for 1922 exceeded	250,000.00

[fol. 414] It is also in evidence that the petitioner classifies this interest as "non-operating revenue," although obviously derived from the daily balances of its deposits from advance payments by the consumers. Because of this condition no allowance for working cash capital is necessary.

Accumulated Depreciation Reserve

To December 31, 1922, was	\$906,186.03
On March 31, 1923, was	931,179.98
That the balance in the fund on March 31, 1923, was	269,443.35
The amount of said fund on said date invested in the petitioner's property was	661,736.63

Land Value, Land Cost, and Land Appreciation

The present fair cash value of all the petitioner's operative land	\$2,491,417.00
The original cost of the petitioner's operative land is	428,536.19

Leaving the appreciation of said land

\$2,062,880.81

Property Must be Both Actually Used and Actually Useful

The petitioner is entitled to have included in this valuation only its property that is both actually used and actually useful in the water service of Indianapolis.

No matter how serviceable or useful a particular item of property may be, yet, if it is not in actual use, its value should be excluded.

Upon the other hand, notwithstanding the fact that a particular item of property may be actually used, yet only to the extent that it is actually useful should its value be included.

That the value of the petitioner's wholly non-operative property, upon the price levels indicated below, is as follows:

1911-1920 basis	\$648,921
1912-1921 basis	655,232
1913-1923 basis	660,800
1918-1922	687,385
Oct. 1922 Spot Cash	683,678

That the non-useful value of the petitioner's office site is as follows:

On the basis of price levels of 1912-1921	\$140.00
On the basis of price levels of Oct. 1922 spot cash	146.00
That the non-useful value of the canal in the water service of Indianapolis on the basis of price levels of 1912-1921 ..	\$900.00
[fol. 415] On the basis of October, 1922, Spot Cash prices ..	\$939,600

Order 1400 Liberal

In view of the fact that the value fixed in order 1400 was accepted both by the petitioner herein and the rate payers and has been made the basis of three subsequent rate valuations, the Commission is of the opinion that the circumstances do not require a critical analysis of the items of valuation therein set out. This is all the more true, because the city in this hearing has tacitly accepted the value established by said order. The Commission regards the value fixed therein as very liberal to the petitioner. It is liberal in its inclusion of more than a million dollars for "structural overheads" and "going value," and it is liberal in other respects.

In the printed order the Commission finds that in the years 1903, 1904, 1905, and 1911 construction costs in the sum of \$133,315.27 were paid as operating expenses, which means that this sum was paid by the water consumers of Indianapolis. The Commission in Order 1400 transferred this sum \$133,315.27 to the capital account of the water company thereby bestowing upon the water company as capital this sum paid by the water consumers. The effect of this transfer is not only to make a gift of this sum from the consumers *to* the water company, but then to require them to pay to the company a return thereon.

There is no obligation upon the consumers to provide the capital for the company. The greatest obligation that legally or equitably can rest upon them is to pay such water rates as will insure to the water company a fair return on its property, not upon their investment therein. In equity, the consumers have an investment of \$133,315.27 in the property of the company.

Tables in Order 1400 purport to set out the amount expended by

the petitioner in construction or plant account. The original cost of \$535,000 is wholly omitted, but at the close of the table is added the plant account of the old Water Works Company of Indianapolis in the sum of \$1,574,840.04, which is \$1,019,840.04 more than \$535,000.00.

The investment set up shows the original cost or investment of the petitioner is omitted and the investment of the old Water Works Company of Indianapolis in the sum of \$1,382,375.00 is included. The difference between \$535,000.00 and \$1,382,375 is \$847,375.

The Water Works Company of Indianapolis and the Indianapolis Water Company are two separate entities, legally distinct.

The investment and cost accounts of the petitioner begin with April 23, 1881. The matters herein before mentioned are typical of the unusual liberality manifested in behalf of the petitioner throughout the findings and comments in order 1400 and attention is called to them merely as indicative of the tenor of the findings and conclusions therein.

[fol. 416]

Water Rights

There is no definite proof as to what the petitioner's water rights are, if other than its rights as a riparian owner.

It does not carry any such rights in its book value.

It did not list them in its verified tax statement.

In its answer to question 15 propounded by the City of Indianapolis, the petitioner states that its records do not show that it has made any expenditure for water rights independently of land purchases.

Upon this status of the proof no specific value should be found for water rights.

The evidence wholly fails to show that the petitioner's alleged water rights are, from whom acquired, when acquired or how acquired.

From the evidence no such description can be extracted as will enable anyone to write a bill of sale or assignment thereof.

Office

That the petitioner is a corporation, organized, existing and operating wholly under the laws of the State of Indiana. That its sole business is to supply water to the city of Indianapolis and the inhabitants thereof. That its water works operations are conducted within said city and within territory contiguous thereto. That it maintains within said city an office at which consumers contract for service, pay their water rates and transact other business relating to the supply of water.

That the petitioner also maintains an office in the city of Philadelphia, for the maintenance of which it charges to the water consumers of Indianapolis as operating expenses, the sum of \$1,425.00 per month, or the sum of \$17,100 annually. This sum, capitalized on a seven per cent basis equals \$244,285.00. The petitioner keeps in the Philadelphia office many of its permanent records, to which

by reason of such fact the Commission and its representatives do not have ready and convenient access.

Value

As an additional and in determining the value of all of the petitioner's property actually used and useful in the water service of Indianapolis the Commission finds the value of said property on sixteen different bases to be as follows:

That the value of the petitioner's used and useful property in the water service of Indianapolis is \$11,276,129.44, as of December 31, 1923, on the basis of the value fixed in Order 1400 plus additions for [fol. 417] the years 1917, 1918, 1919, 1920 and 1922, at actual cost, plus additions for the year 1923 at the petitioner's estimated cost, less depreciation accrued for the years 1917, 1918, 1919, 1920, 1921 and 1922, and the depreciation for the year 1923, as estimated by the petitioner.

The itemized value on this basis is as follows:

Value fixed in order 1400.....	\$9,500,000.00
Additions between Dec. 31, 1916 and Jan. 1, 1923, at actual cost.....	1,592,210.03
Additions between Dec. 31, 1922 and Jan. 1, 1924 at actual cost as estimated by the petitioner in petition 7080	750,000.00
Total Gross Value.....	\$11,842,210.03

Deductions

Depreciation accrued for the years 1917, 1918, 1919, 1920, 1921 and 1922.....	\$406,040.59
Depreciation for the year 1923 as estimated in peti- tion 7080	160,040.00
Total Deductions	\$566,080.59

Recapitulation

Total Gross Value.....	\$11,842,210.03
Total Deductions	566,080.59
Net Value	\$11,276,129.44

That the value of the petitioner's used and useful property in the water service of Indianapolis is \$8,342,837.88 as of December 31, 1923, at actual original cost, plus additions at actual cost until and including December 31, 1922, plus additions for the year 1923, at the cost estimated in petition 7080, with no deductions whatever.

That the value of the used and useful property of the petitioner in the water service of Indianapolis is \$7,521,100.62, as of Decem-

ber 31, 1923, on the basis of actual cost, less only the amount of the accumulated depreciation reserve invested and the depreciation for the year 1923. Said value is itemized as follows:

Original Cost	\$535,000.00
Additions from April 21, 1881 to January 1, 1923 at actual cost.....	7,713,069.88
Additions between Dec. 31, 1922 and January 1, 1924 at the cost estimated in petition 7080....	750,000.00

Total Gross Cost.....	\$8,998,069.88
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[fol. 418]

Deductions

Non-operative property	\$655,232.00
Accumulated depreciation reserve invested.....	661,736.63
Depreciation for the year 1923 as estimated in peti- tion 7080	160,000.63

Total Deductions	\$1,476,969.26
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Recapitulation

Gross Cost	\$8,998,069.88
Deductions	1,476,969.26
Net Cost	\$7,521,100.62

That the value of the petitioner's used and useful property in the water service of Indianapolis is \$11,692,520.19 as of December 31, 1923 on the basis of actual cost, plus fifty per cent appreciation, and less only the accumulated depreciation reserve invested and the depreciation for 1923.

Said value is itemized as follows:

Gross Cost of both operative and non-operative prop- erty from preceding statement.....	\$8,998,069.88
Less Non-operative property.....	655,232.00

Gross cost of operative property.....	\$8,342,837.88
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Plus 50% appreciation.....	4,171,418.94
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Total Gross Cost of operative property and 50% appreciation	\$12,514,256.82
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Deductions

Accumulated depreciation reserve invested.....	\$661,736.63
Depreciation for 1923 at the estimate in petition 7080	160,000.00

Total Deductions	\$821,736.63
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Recapitulation

Cost of operative property plus 50% appreciation..	\$12,514,256.82
Deductions	821,736.63
Net Value	<u>\$11,692,520.19</u>

That the value of the petitioner's used and useful property in the water service of Indianapolis is \$7,243,519.27, as of December 31, 1923, on the basis of actual cost to the present owners of the petitioner, without any deductions whatever.

Said value is itemized as follows:

[fol. 419] Paid for capital stock in the latter part of the year 1912.....	\$4,000,000.00
Additions from January 1, 1913 to Dec. 31, 1913..	211,036.66
Additions from January 1, 1914 to Dec. 31, 1914..	438,479.29
Additions from January 1, 1915, to Dec. 31, 1915..	134,841.67
Additions from January 1, 1916 to Dec. 31, 1916..	116,951.62
Additions from January 1, 1917 to Dec. 31, 1917..	240,456.25
Additions from January 1, 1918 to Dec. 31, 1918..	141,503.00
Additions from January 1, 1919 to Dec. 31, 1919..	214,365.71
Additions from January 1, 1920 to Dec. 31, 1920..	319,457.24
Additions from January 1, 1921 to Dec. 31, 1921..	375,957.62
Additions from January 1, 1922 to Dec. 31, 1922..	300,470.21
Additions for the year 1923 at the cost estimated in petition 7080	750,000.00
Total Gross Cost to present owners.....	<u>\$7,243,519.27</u>
Less Non-operative property.....	655,232.00
Net Value	<u>\$6,588,287.27</u>

That the value of the petitioner's used and useful property in the water service of Indianapolis, as of December 31, 1922, was \$8,217,699.29 on the basis of capital stock, preferred stock, bonds, surplus invested and accumulated depreciation reserve.

Said value is made up of the following items:

Original issue of capital stock at par.....	\$500,000.00
Cash from sale of bonds.....	2,990,533.00
Cash from preferred stock.....	951,375.00
Corporate surplus invested.....	3,524,837.26
Accumulated depreciation reserve.....	906,186.03
Total	<u>\$8,872,931.29</u>
Less Non-operative property.....	655,232.00
Net Value	<u>\$8,217,699.29</u>

That the value of the used and useful property of the petitioner in the water service of Indianapolis, as of December 31, 1923, is \$9,583,982.06 on the basis of actual cost, plus land appreciation and less the amount of the accumulated depreciation reserve invested and the depreciation for the year 1923.

Said value is itemized as follows:

Actual cost as of December 31, 1923.....	\$8,342,837.88
Land appreciation	2,062,880.81

Total of actual cost and land appreciation..	\$10,405,718.69
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Deductions

Accumulated depreciation reserve invested.....	\$661,736.63
Depreciation for the year 1923 as estimated in petition 7080	160,000.00

Total Deductions	\$821,736.63
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[fol. 420]

Recapitulation

Total Original Cost and Land Appreciation.....	\$10,405,718.69
Total Deductions.....	821,736.63

Net Value.....	\$9,583,982.06
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That the value of the petitioner's used and useful property in the water service of Indianapolis, as of December 31, 1923, is \$7,829,432.82 on the basis of actual cost to the present owners of the petitioner, plus land appreciation, and less only the amount of the accumulated depreciation reserve invested and the depreciation for 1923.

Said value is composed as follows:

Actual Cost to the present owners.....	\$6,588,289.27
Land Appreciation.....	2,062,880.81

Total of cost and land appreciation.....	\$8,651,170.08
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Deductions

Accumulated depreciation reserve invested.....	\$661,736.63
Depreciation for 1923 as estimated in petition 7080.	160,000.63

Total Deductions.....	\$821,737.26
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Recapitulation

Total of cost and land appreciation.....	\$8,651,170.08
Total deductions.....	821,737.26

Net Value.....	\$7,829,432.82
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That the value of the petitioner's used and useful property in the water service of Indianapolis, as of December 31, 1922, was \$9,618,843.47 on the basis of capital stock, preferred stock, bonds, surplus invested and accumulated depreciation reserve plus land appreciation and less only the amount of the accumulated depreciation reserve invested, itemized as follows:

Original issue of capital stock at par.....	\$500,000.00
Cash from sale of bonds.....	2,990,533.00
Cash from preferred stock.....	951,375.00
Corporate surplus invested.....	3,524,837.26
Accumulated depreciation reserve.....	906,186.03
Land Depreciation.....	2,062,880.81
Total Gross Value.....	<u>\$10,935,812.10</u>

Deductions

Non-operative property.....	\$655,232.00
Amount of accumulated depreciation reserve invested.....	661,736.63
Total deductions.....	<u>\$1,316,968.63</u>

Recapitulation

Gross Value.....	\$10,935,812.10
Deductions.....	1,316,968.63
Net Value.....	<u>\$9,618,843.47</u>

[fol. 421] That the value of the petitioner's used and useful property in the water service of Indianapolis is \$11,631,398.37 as of December 31, 1923 on the basis of the order 6613, plus additions from October 31, 1922 until December 31, 1922 inclusive, at actual cost, plus additions for 1923 at the cost estimated by the petitioner, less proper deductions. On this basis said value is itemized as follows:

Value fixed in order 6613.....	\$16,544,000.00
Additions from October 31, 1922 until December 31, 1922 inclusive at actual cost.....	80,999.00
Additions for the year 1923 at the cost estimated in petition 7080.....	750,000.00
Total.....	<u>\$17,285,999.00</u>

Deductions

Structural overheads.....	\$1,902,532.00
Excessive going value and water rights.....	1,100,100.00
Non operative property.....	655,232.00
Non-useful canal value.....	900,000.00
Non-useful office site value.....	140,000.00
Working cash capital.....	135,000.00
Accumulated depreciation reserve invested.....	661,736.63
Depreciation for the year 1923 as the estimate in petition 7080.....	160,000.00

Total Deductions.....	<u>\$5,654,600.63</u>
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Recapitulation

Gross Value Order 6613.....	\$17,285,999.00
Total Deductions.....	<u>5,654,600.00</u>

Net Value Order 6613.....	<u>\$11,631,398.00</u>
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That the value of the petitioner's used and useful property in the water service of Indianapolis, as of December 31, 1923, is \$11,182,031.40 on the basis of the reproduction cost new (as found in order 1400) of the physical property, except land, as of January 1, 1917, plus additions at actual cost, plus the present value of the land, and less only the accumulated depreciation reserve invested and the depreciation for the year 1923, itemized as follows:

Reproduction cost new of the physical property except land (as found in order 1400, as of January 1, 1917.....	\$7,170,191.00
Additions from January 1, 1917 to December 31, 1922, both inclusive, at actual cost.....	1,592,210.00
Additions for the year 1923 at the cost estimated in petition 7080.....	750,000.00
Present value of land.....	2,491,417.00

Total Gross Value.....	<u>\$12,003,818.00</u>
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[fol. 422]

Deductions

Accumulated depreciation reserve invested.....	\$661,736.63
Depreciation for 1923 as set out in petition 7080..	160,000.00

Total Deductions.....	<u>\$821,736.63</u>
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Recapitulation

Gross Value.....	\$12,003,818.00
Deductions	<u>821,736.63</u>

Net Value.....	<u>\$11,182,081.40</u>
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The value on this basis includes \$760,146.00 for contingencies (structural overheads) and \$300,000 for going value, or for the two items \$1,060,146.00.

That the value of the petitioner's used and useful property in the water service of Indianapolis as of December 31, 1923 is \$9,562,170.92 on the basis of the reproduction cost new of the physical property on April 1, 1922 on the average level of prices for the ten year period of 1911 to 1920, plus additions from April 1, 1922 until December 31, 1922 inclusive, at actual cost, plus additions for the year 1923 at the cost estimated in petition 7080, and less only the accumulated depreciation reserve invested and the depreciation for 1923, itemized as follows:

Reproduction cost new of physical property on April 1, 1922.....	\$9,337,908.55
Additions from April 1, 1922 until December 31, 1922, inclusive, at actual cost.....	295,999.00
Additions for the year 1923 at the cost estimated in petition 7080.....	750,000.00
Gross Value.....	<u>\$10,383,907.55</u>
Deductions	
Accumulated depreciation reserve invested.....	\$661,736.63
Depreciation for the year 1923 as set out in petition 7080.....	160,000.00
Total Deductions.....	<u>\$821,736.63</u>
Recapitulation	
Gross Value.....	\$10,383,907.55
Deductions	821,736.63
Net Value.....	<u>\$9,562,170.92</u>

That the value of the petitioner's used and useful property in the water service of Indianapolis is \$11,829,112.38 as of December 31, 1923 on the basis of the reproduction cost new of the physical property on April 1, 1922 on the average level of prices for the ten year period of 1911 to 1920, according to the appraisal of the Commission's engineer, plus additions from April 1, 1922 to December 31, 1922 at actual cost, plus additions for 1923 at the cost estimated in petition 7080, less only the accumulated depreciation for 1923, itemized as follows:

[fol. 423] Engineer's Appraisal as of April 1, 1922

Land	\$2,476,442
Transmission and Distribution.....	5,259,593
Buildings and miscellaneous structures.....	1,812,979
Plant equipment.....	1,779,375
General equipment.....	86,697
Paving	91,403
Materials and supplies.....	98,361
Total of Engineer's Appraisal.....	\$11,604,850
Additions from April 1, 1922 to December 31, 1922 inclusive of actual cost.....	295,999
Additions for 1923 at cost estimated in petition 7080	750,000
Total Gross Value.....	\$12,650,849
Deductions	
Accumulated depreciation reserve invested.....	\$661,736.63
Depreciation for 1923 as estimated in petition 7080.	160,000.00
Total Deductions.....	\$821,736.63
Recapitulation	
Total Gross Value.....	\$12,650,849.00
Total Deductions.....	821,736.62
Net Value.....	\$11,829,112.38

In the above structural overheads are eliminated.

That the value of the petitioner's used and useful property in the water service of Indianapolis is \$13,125,158.74 as of December 31, 1923, on the basis of its reproduction cost new at spot cash prices as of October 31, 1922, plus additions since made at actual cost and at the petitioner's estimated cost plus structural overheads actually paid and less proper deductions.

On this basis the values and deductions are itemized as follows:

Gross Values of All Property

Land	\$2,949,436.00
Transmission and distribution	6,849,201.00
Buildings and miscellaneous structures	2,611,801.00
Plant equipment	2,311,801.00
General Equipment	105,117.00
Paving	106,027.00
Materials and supplies	102,997.00
Additions from Oct. 31, 1922 to Dec. 31, 1922 inclusive at actual cost	80,999.00
Additions for 1923 at the cost estimated in petition 7080	750,000.00
Structural overheads actually paid by the petitioner	191,743.52
Total Gross Value of all prop.	<u>\$16,104,124.52</u>

[fol. 424]

Deductions

Non-operative property	\$683,678.00
Accumulated depreciation reserve invested	661,736.63
Depreciation for 1923 as estimated in petition 7080	160,000.00
Non-useful value of office site	146,000.00
Non-useful value of the canal	939,600.00
Structural overheads paid by the consumers as operating expenses	254,635.88
Construction costs paid by consumers as operating expenses	133,315.27
Total Deductions	<u>\$2,978,965.78</u>

Recapitulation

Gross Value	\$16,104,124.52
Deductions	<u>2,978,965.78</u>
Net Value	\$13,125,158.74

That the value of the petitioner's used and useful property in the water service of Indianapolis, as of March 1, 1923, was \$11,330,468 on the basis of its assessment for taxation for the year 1923.

The assessed value for taxation for the year 1923, of all of the petitioner's property, both operative and non-operative, as fixed by the State Tax Board of Indiana, is \$12,085,700.00.

The petitioner reported under oath to the State Tax Board that the fair cash value of said property was only \$10,853,300.00.

The value of the petitioner's non-operative property is \$655,232.00, which, deducted from the value fixed by the State Tax Board for both operative and non-operative property, leaves \$11,330,468.00 as the value of the petitioner's used and useful property on this basis.

That the value of the petitioner's operative property in the water service of Indianapolis is \$11,834,277.45 on the basis of the petitioner's own book account, as follows:

Book Value of all property.....	\$12,489,509.45
Deduct non-operative property.....	655,232.00
Net Book value of operative property.....	\$11,834,277.45

This value includes an arbitrary addition or "write-up" on the petitioner's books on April 1, 1909 of \$4,586,288.95, that is, as it closed its books on March 31, 1909, all of its property was charged thereon as of the value of \$5,279,284.77.

On April 1, 1909, the books were opened with a property value of \$9,865,573.82 or an increase of \$4,586,288.95.

The increase is made up as follows:

[fol. 425] Property and plant.....	\$3,582,288.95
Going Value	1,004,000.00

The two combined.....	\$4,586,288.95
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This is the first appearance of "going value" on the petitioner's books.

Thereafter "going value" was carried on the petitioner's books as one of the items of "property and plant."

Tax Valuation

In this respect, by its 1923 statement, the petitioner:

1. Listed all of its tangible property, both operative and non-operative, as of the true cash value of \$10,853,300.00.
2. Did not specifically designate anything as intangible property.
3. Stated, "no value given franchises in books."

By deducting from \$10,853,300, the sum of \$655,232.00 as the value of its non-operative property, we have left \$10,198,068 as the petitioner's sworn opinion of the true cash value of all of its operative property on March 1, 1923.

Weight of the Petitioner's Tax Report as Evidence of Value

The weight to be given to a utility's report for taxation, in the valuation of its property, should depend in a very large measure upon the requirements of the statute under which it is made.

To this end, the Indiana tax law becomes a very potent factor in fixing the value of the petitioner's used and useful property in the water service of Indianapolis.

In the first place, the Indiana tax law requires that all property of every kind and nature shall be assessed and valued for taxation at the true cash value thereof.

In order to make it certain that a public utility would not be assessed on mere physical property, it is provided:

a. That every franchise or privilege used or enjoyed by any person or corporation shall be listed and assessed as personal property. (Sec. 24.)

b. That intangible property not included in any other designation shall be assessed. (Clause 9 Sec. 88.)

Then to insure the taxing authorities with what should be certain and creditable information of the value thereof, the utility is required to report under oath:

a. The name and value of each franchise or privilege owned or [fol. 426] enjoyed by it.

b. Such intangible property and a statement of the true cash value of the same.

If "Structural overheads" and "going value" are not in reality intangible property, then there is only one other way in which they may be considered in this case, and that is as an incident or appurtenance of the physical property. As such incident or appurtenance of the physical property, they, of necessity, must be included in the true cash value thereof.

Under Section 9 of the Utility Act (Acts 1913, p. 173) the Commission is required to value all the property of the petitioner actually used and useful in the water service of Indianapolis.

Structural Overheads

The direct positive proof is that from April 23, 1881 to March 31, 1909 the petitioner incurred and paid structural overhead charges as operating expenses in the sum of \$254,635.88. In other words, the water consumers paid this entire amount. If these charges are to be capitalized, they should have been paid by the water company with funds not derived from water charges, and then the water consumers should pay only a return thereon.

If this sum is carried to the capital account, then to that extent the consumers are both providing the capital and paying a return thereon. The only direct and creditable proof of any other "structural overhead" expenses is that from January 1, 1913, to December 31, 1922, the petitioner paid such an expense in the sum of \$191,743.52. The proof, therefore, is that the water consumers of Indianapolis have paid of the petitioner's "structural overhead" expenses the sum of \$254,635.88, which is clearly a donation, while the petitioner itself has paid only \$191,743.52 of such expenses, or \$62,892.36 less than the amount contributed by the water consumers.

Upon this state of the proof, with all the funds of the petitioner, derived from investment and income accounted for, it is contended that a large item for "structural overheads," practically \$2,000,000.00 should be included in the value of its used and useful property, in other words, should be added to its capital account. "Struc-

tural overhead" expense, when actually paid and proven, is a proper element of the capital account. There is no concrete proof from which such an item can be found or inferred in this case.

The demand is made upon the Commission to include this item not from proofs of actual payment, but from an engineer's estimate that such an expense must have been, may have been, or possibly has been incurred by the petitioner, and for some unexplained reason, it has no record of it, although it does have a record of the \$254,635.88 donated by the water consumers and of \$191,743.52 paid by itself. [fol. 427] Upon this state of facts, the logical inference certainly is that no other sums have been expended on this account.

Under the undisputed evidence the petitioner has actually with its own funds paid "structural overhead" expenses in the sum of \$191,743.52 only.

Going Value

It is insisted that the Commission shall include in its valuation of the petitioner's used and useful property, in the water service of Indianapolis, an item of approximately \$1,500,000 for "going value." \$300,000.00 for this item was included in order 1400 and has been carried forward in orders 2868, 4979, and 5798.

Efforts to define "going value" have been somewhat varied. The reasonable view of the matter is that "going value" is the difference between the value of a dead plant and a live one, the difference between the value of a non-operating plant and one going, the difference between the value of the physical property completed, without customers, and its value in operation, with customers, the enhanced commercial value of the business as a going concern. "Going value," however it may be defined, is recognized either as property itself or an appurtenance thereof.

In section 9 of the utility law, there is the following provision:

"The Commission shall value all the property of every public utility actually used and useful for the convenience of the public. As one of the elements in such valuation the Commission shall give weight to the reasonable cost of bringing the property to its then state of efficiency."

The thing to be given weight is the reasonable cost of bringing the property to its then state of efficiency. It is the real, actual, bona fide, reasonable cost that is to be given weight—not some one's guess that there may have been such a cost, and that such cost may have been some per cent of the cost or value (guessed at) of the physical property.

If such cost is actually proven and is proven not to have been paid by the consumer as operating expenses, it should then be carried to the capital account. However, when it has been paid by the consumer as operating expenses, it should not be carried to the capital account, any more than should construction costs paid by the consumer as operating expenses, or "structural overheads" so paid.

In the instant case, there is a total lack of proof of any actual cost in this respect.

The facts and circumstances in evidence are such as would establish conclusively, in ordinary court proceedings that whatever ex-

pense, which has been incurred for structural overheads and in establishing the business (converting it from a "dead" plant to a [fol. 428] going concern) has been paid by the water consumers as operating expenses.

And in the face of this situation, and in the face of the fact that in order 1400 the sum \$133,315.27 of construction costs, paid by the water consumers as operating expenses, was carried to the petitioner's capital account so that the consumers must pay a return on their own investment, we are advised that equity demands that the further investment by the consumers in "structural overheads" and in the expense of establishing the business, as operating expenses shall be carried to the petitioner's capital account and inflated to the sum of \$3,500,000.00 in order to save the petitioner's property from confiscation by the water consumers of Indianapolis.

Reproduction

Notwithstanding any or how many declarations have been or may be made to the contrary the fact remains that the value fixed by the majority is based alone upon exaggerated estimates of the cost of reconstruction new plus the imaginary items of "structural overheads" and "going value." Estimates of reconstruction cost are highly speculative under any circumstances. They are necessarily products of the imagination. They are not even the same thing as reproduction cost. They are merely a magnified guess at it.

And then actual reproduction cost is not the same thing as value. It is only some evidence of value. In this case reproduction has been treated by the majority as exact duplication.

Duplication involves the idea (many times absurd) of bringing back or creating new a complete duplicate of the identical property without regard to what is the usual experience that much of it has become wholly obsolete and worthless through time, development and progress. It would be difficult to conceive of a situation which more clearly illustrates the fallacy of duplication than the Indianapolis Water Works.

The original plant has been in existence more than fifty years. If no other factor than the advancement of that period were to be considered, duplication would be absurd.

Then there is incorporated into system the canal, constructed ninety years ago for navigation and hydraulic uses. Would any reasonable man entertain the proposition of duplicating the canal, if a new water works system were to be constructed in Indianapolis? Certainly not.

In the estimated reconstruction new cost there is the highly fancied estimate of the cost of duplicating the canal as it was constructed ninety years ago. It would be just as germane to the ascertainment of the actual value of the petitioner's property used and useful in the present water service of Indianapolis to indulge in a magnified imagination of the expense of repopulating the canal banks with the Indians.

Certainly reproduction cost, as some evidence of present value, should be ascertained by the substitution (not duplication) of a new plant of equal capacity, efficiency and durability, eliminating obsolete and useless parts of the old and with due allowance for depreciation on account of time and use.

From all the facts herein found specially and all the other facts in evidence, the Commission hereby finds the value of all the petitioner's property actually used and useful in the water service of Indianapolis to be \$12,000,000 as of December 31, 1923.

In arriving at this value due credit and allowance has been made for \$760,146.00 as "structural overheads," and \$300,000 for "going value," and \$75,000 for working cash capital, as found in order 1400, although proof to establish such items is regarded as very unsatisfactory.

In fixing the value of \$12,000,000 we have exceeded our conservative judgment by \$1,000,000.00 as to the real value of the petitioner's used and useful property in the hope that we might thereby be able to reach an agreement, and, because on that valuation, a substantial reduction in rates can be made.

That the Commission valuation of the petitioner's used and useful property in the water service of Indianapolis for each of the years 1917, 1918, 1919, 1920, 1922 and 1923, and the net income available for return in each of said years are as follows:

	Commission value	Net income available for return
Year 1917	\$9,500,000.00	\$553,982.15
Year 1918 for 10 mo.....	9,500,000.00	533,815.62
Year 1918 for 2 mo.....	9,664,000.00	
Year 1919	9,664,000.00	617,333.90
Year 1920	9,853,529.08	660,967.37
Year 1921, 3 mo.....	9,853,529.08	758,176.41
Year 1921, 9 mo.....	10,814,000.00	
Year 1922	10,814,000.00	838,853.33
Year 1923	10,814,000.00	925,000.00 estimated.

Net Income Available for Return.

That the petitioner's net income, available for return on its used and useful property in the water service of Indianapolis, for the year 1923, should be not less than \$925,000.00 without considering any increase in the number of consumers of the volume of business. The net amount available for the year 1924 should be no less, so that, after paying a seven per cent return on the valuation of \$12,000,000.00 there will still be a net surplus of \$85,000.00.

Free Water

That under the present operation the petitioner is furnishing to the city of Indianapolis water for certain uses free. All parties agree that this practice should be discontinued and the Commission so finds.

Schools on Meter Basis

[fol. 430]

The parties all agree that water should be supplied to the schools on the regular meter rate only, and the Commission finds such to be the fact.

Upon the foregoing facts we favor an order that will:

1. Deny the petition to increase rates.
2. Require the city to pay for all the water it uses.
3. Place the schools on the regular meter rate.
4. Reduce the rates of domestic consumers sufficiently to absorb an annual net surplus of \$85,000.00.
5. Contain a rate schedule, written in such Plain English that the consumers may read it and understand it, without the aid of an interpreter.

We seriously protest against that part of the order which establishes the rate schedule, because it was never submitted to or considered by the Commission as a whole. Only isolated items of it were ever mentioned in conference, and then in a very casual manner.

Dated this 1st day of December, 1923.

Frank Wampler, Samuel Artman, Commissioners.

[fol. 431]

IN UNITED STATES DISTRICT COURT

JUDGE'S CERTIFICATE TO STATEMENT OF EVIDENCE

The foregoing condensed statement of evidence in two volumes—volume one containing oral evidence and volume two the Exhibits admitted in evidence—was presented to me for approval by attorneys for the defendants at Indianapolis in the District of Indiana this 19th day of December 1924 pursuant to notice served on attorneys for the complainant in said cause; and no objections thereto being made and no amendments proposed by any party and the request that certain portions of the evidence be in the form of questions and answers having been made and granted, I find said statement to be true, complete, and properly prepared, and I approve the same and order it to be filed with the clerk.

December 19, 1924.

F. A. Geiger, Judge.

[fols. 137 & 138] IN UNITED STATES DISTRICT COURT

[Title omitted]

PRÆCIPE FOR TRANSCRIPT OF RECORD—Filed Jan. 10, 1925

To the Clerk of said Court.

SIR: Please incorporate into the transcript of the record on the appeal in the above entitled cause the following portions of the record: (1) Bill of complaint with its exhibits; (2) Process and Return; (3) Appearance of Counsel; (4) Designation of judge for trial of case; (5) Petition of City of Indianapolis for leave to intervene as defendant and file answer to complainant's bill, excluding copy of Bill of Complaint but with reference to Bill of Complaint elsewhere set out in transcript; (6) Order on said petition to intervene; (7) Answer of City of Indianapolis to Bill of Complaint (may be shown by reference to answer filed with petition); (8) Answer of the defendants, other than the City of Indianapolis to the Bill of Complaint; (9) The decree of the court; (10) The court's opinion; (11) Defendants notice to Complainant of lodgment of condensed statement of Evidence and acknowledgment by the complainant (appellee); (12) Condensed statement of the evidence in two volumes [fol. 139] including exhibits, approved by court and the approval thereof; (13) Petition for appeal and order of allowance; (14) Assignment of errors; (15) Appeal bond of Defendants and approval by court and complainant; (16) Citation on Appeal and acknowledgment of service by complainant; (17) Præcipe for transcript with endorsement of complainant.

Arthur L. Gilliam, Attorney General of Ind.; Edward M. White, Asst. Atty. Gen. of Indiana; Taylor E. Groninger, Clair McTurnan, Solicitors for Defendants, Appellants.

Due service of the above præcipe is hereby accepted and acknowledged and the præcipe is hereby approved.

— ker & Daniels, Solicitors for Complainant, Appellee.

[fol. 140] DISTRICT OF INDIANA:

IN UNITED STATES DISTRICT COURT

CLERK'S CERTIFICATE

I, William P. Kappes, Clerk of the District Court of the United States for the District of Indiana, do hereby certify that the above and foregoing is a full and true complete transcript of the record, according to the above and foregoing præcipe, in the cause of Indianapolis Water Company vs. John McCardle, et al., No. 750, in Equity, as the same appears of record in my office.

Witness my hand and the Seal of said Court, this 10 day of January, 1925.

William P. Kappes, Clerk. (Seal of District Court of the United States, District of Indiana.)

Endorsed on cover: File No. 30,806. Indiana D. C. U. S. Term No. 245. John W. McCardle, Maurice Douglass, Oscar Ratts, et al., as members of the Public Service Commission of Indiana, et al., appellants, vs. Indianapolis Water Company. Filed January 14th, 1925. File No. 30,806.

(6926)